L. E. Martin

One Hundred and Fifty-first
Annual Report of the Trustees

of

THE MASSACHUSETTS GENERAL HOSPITAL

Including the General Hospital in Boston
and the
McLean Hospital in Belmont

For the Year
1964
Officers and Staff
1965

BOSTON : MASSACHUSETTS

FORMS OF LEGACIES

A. *An Unrestricted Legacy*

"I give to The Massachusetts General Hospital, a corporation organized under the laws of Massachusetts and situated in Boston, Massachusetts, ...($)."

Money given in this way may be used by the Hospital for any purpose within the scope of its powers. Both principal and income may be so used.

B. *A Legacy Restricted as to Principal but Not Restricted as to Income*

"I give to The Massachusetts General Hospital, a corporation organized under the laws of Massachusetts and situated in Boston, Massachusetts, ...($). The principal of this gift shall be held and may be mingled with other funds of the Hospital for investment. The Hospital may expend the income for any purpose within the scope of its powers. (The following sentence is optional.) This gift is made in memory of ..... and shall be known as the ..... Fund."

Money given in this way establishes a permanent fund.

C. *A Legacy Intended for a Special Purpose*

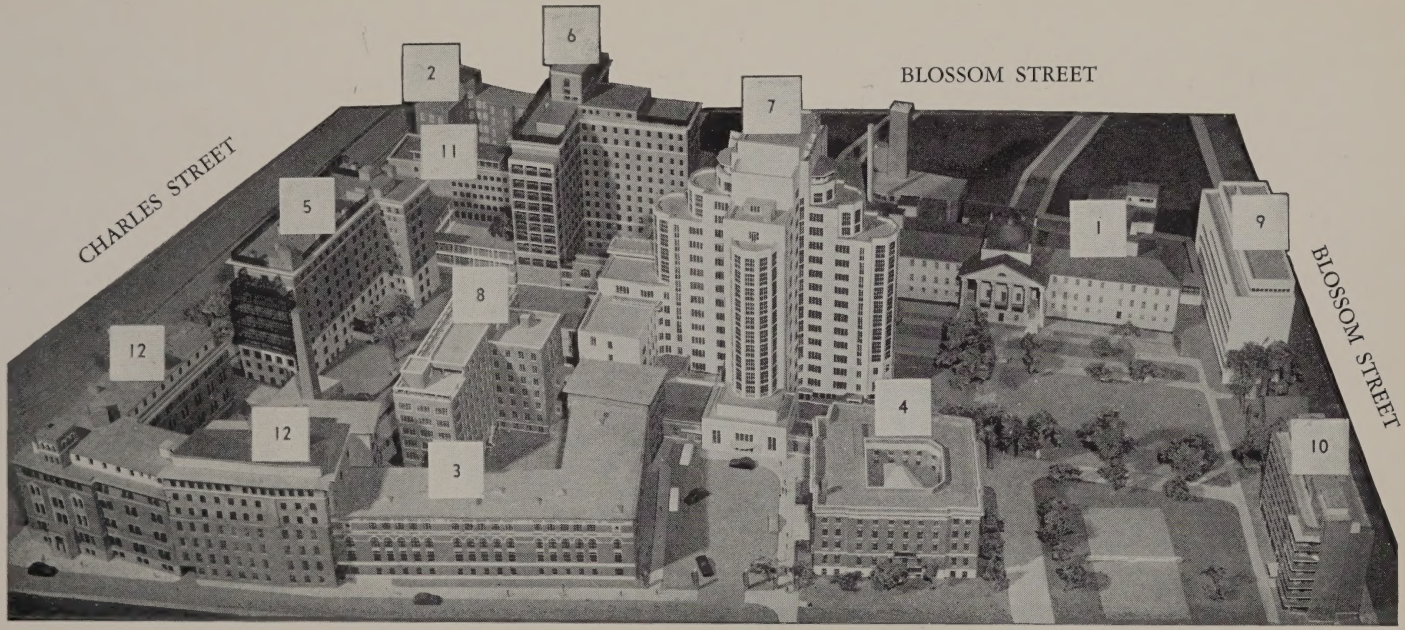
Where either principal or income of a bequest is to be restricted to some special purpose of the Hospital, it is suggested that the testator contact the Treasurer's Office, 45 Milk Street, Boston.

Member of United Community Services of Metropolitan Boston

Member of American Hospital Association

Accredited by the Joint Commission on Accreditation of Hospitals of the United States and Canada

Approved by American Medical Association for Residencies and Internships



FRUIT STREET

THE MASSACHUSETTS GENERAL HOSPITAL

1. Bulfinch Building (1821); 2. Thayer House Nurses' Residence (1883); 3. The Clinics Building (1903); 4. Moseley Building (1916); 5. Phillips House (1917); 6. Baker Memorial (1930); 7. George Robert White Building (1939); 8. Vincent Memorial Hospital and Burnham Memorial for Children (1947); 9. Research Building (1951); 10. Bartlett Hall Nurses' Residence (1953); 11. Warren Building (1956); 12. *Massachusetts Eye and Ear Infirmary* (1899).

One Hundred and Fifty-first Annual Report of the Trustees

OF

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Including the General Hospital in Boston and the McLean Hospital in Belmont

For the year

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Officers and Staff

1965

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*Appointed by the Governor of the Commonwealth

BOSTON · MASSACHUSETTS

Information

THE MASSACHUSETTS GENERAL HOSPITAL is a private, incorporated institution supported solely by voluntary contributions and the receipts from those patients who pay board. It consists of three main divisions: The General Hospital for those unable to pay for private medical care, The Baker Memorial with private and semi-private accommodations, and the Phillips House, the private pavilion. All three divisions are for the care of acutely ill persons, or for such chronic cases as can be substantially relieved by hospitalization of short duration. In addition, Storrow House, located in Lincoln, Massachusetts, is for convalescent patients no longer in need of hospital nursing care.

THE GENERAL HOSPITAL

Entrance: Fruit Street, end of North Grove Street. Telephone—523-8200.

Arrangements for the admission of patients to the General Hospital should be made at the Admitting Office in the George Robert White Building (Extension 2214).

Emergencies are admitted at any hour; arrangements should be made by telephone. Persons injured by accident or overcome by acute illness may come to the Emergency Ward at the Hospital entrance at any time.

The Clinics of the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary, open for admission from 8:15 a.m. to 10:00 a.m. and from 1:00 p.m. to 3:00 p.m., are for patients who can not afford the cost of private medical care. Appointments may be made by mail, telephone, or personal application at the Admitting Desk.

THE BAKER MEMORIAL

Entrance: Same as the General Hospital. Telephone—523-8200.

The Baker Memorial is for patients of moderate means. Arrangements for admission should be made at the Admitting Office in The Baker Memorial (Extension 446).

Patients may be referred by any physician, but may be attended only by members of the Staff of the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary.

THE PHILLIPS HOUSE

Entrance: 265 Charles Street. Telephone—523-8200.

Information about admission may be obtained at the Phillips House Admitting Office. Patients may be referred by any physician, but may be attended only by members of the Staff of the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary.

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George S. Weld

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as of January 1, 1965

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April and October

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June and December

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July

Prof. Schmitt and Mr. Burr

August

Monsignor Barry and Mr. Putnam

January 1966

Prof. Schmitt and Mr. Burr

February 1966

Monsignor Barry and Mr. Putnam

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GENERAL MEDICINE

Chief of Medical Services

Robert H. Ebert, M.D.

Consulting Visiting Physicians

Edward F. Bland, M.D.
Charles L. Short, M.D.

Physicians

Myles P. Baker, M.D.
Earle M. Chapman, M.D.
Daniel S. Ellis, M.D.
Dana L. Farnsworth, M.D.
Allan L. Friedlich, M.D.
Bernard M. Jacobson, M.D.
John H. Knowles, M.D.
Alfred Kranes, M.D.
Alexander Leaf, M.D.
Jacob Lerman, M.D.
Francis C. Lowell, M.D.
Gordon S. Myers, M.D.
Marian W. Ropes, M.D.
John B. Stanbury, M.D.
Conger Williams, M.D.
Paul C. Zamecnik, M.D.

Associate Physicians

William H. Baker, M.D.
William S. Beck, M.D.
Kenneth T. Bird, M.D.
Perry J. Culver, M.D.
Briant L. Decker, M.D.
Anne P. Forbes, M.D.
Harriet L. Hardy, M.D.
Reed Harwood, M.D.
Kurt J. Isselbacher, M.D.
Rita M. Kelley, M.D.
Farahe Maloof, M.D.
Janet W. McArthur, M.D.
Arthur S. Pier, Jr., M.D.
Walter W. Point, M.D.
John D. Stoeckle, M.D.
Morton N. Swartz, M.D.
Louis Weinstein, M.D.
Edwin O. Wheeler, M.D.

Assistant Physicians

Irving P. Ackerman, M.D.
Alan C. Aisenberg, M.D.
John C. Angley, M.D.
K. Frank Austen, M.D.
Victor G. Balboni, M.D.
Milton H. Clifford, M.D.
Leslie J. DeGroot, M.D.
Roman W. DeSanctis, M.D.
Daniel D. Federman, M.D.
Richard A. Field, M.D.
Gerald S. Foster, M.D.
William Franklin, M.D.
Howard S. Frazier, M.D.
Joseph W. Gardella, M.D.
Edgar Haber, M.D.
Frederick T. Hatch, M.D.
H. Walter Jones, Jr., M.D.
Robert H. Jones, M.D.
Stephen M. Krane, M.D.
John W. Littlefield, M.D.
Edwin P. Maynard, III, M.D.
John A. Mills, M.D.
John M. Moses, M.D.
Lot B. Page, M.D.
John T. Quinby, M.D.
Walter T. St. Goar, M.D.
Guillermo C. Sanchez, M.D.
W. Davies Sohier, Jr., M.D.
George P. Sturgis, M.D.
Arthur L. Watkins, M.D.
Richard G. Whiting, M.D.

Assistants in Medicine

David W. Allen, M.D.
George P. Baker, Jr., M.D.
G. Octo Barnett, M.D.
Francis G. Barnum, Jr., M.D.
Patricia H. Benedict, M.D.
Kurt J. Bloch, M.D.
Caesar Briefer, Jr., M.D.
James H. Currens, M.D.
John C. Dalton, M.D.
Alvin Essig, M.D.
Andrew G. Frantz, M.D.
Mehran Goulian, M.D.
John Homans, Jr., M.D.
John W. Irwin, M.D.
Lewis W. Kane, M.D.
Homayoun Kazemi, M.D.
John W. Keller, M.D.
Bernard Kliman, M.D.
Jan Koch-Weser, M.D.
William F. McNeely, M.D.
Donald B. Martin, M.D.
Maurice M. Pechet, M.D.
Sholem Postel, M.D.
Richmond Prescott, M.D.
Mitchell T. Rabkin, M.D.
Edward S. Rendall, M.D.
Dwight R. Robinson, M.D.
Charles A. Sanders, M.D.
Allan I. Sandler, M.D.
Robert H. Schapiro, M.D.
Victor W. Sidel, M.D.
John H. Sisson, M.D.
Frank A. Warner, M.D.
Arnold N. Weinberg, M.D.
Hibbard E. Williams, M.D.
Martin J. Wohl, M.D.

Clinical Associates in Medicine

John G. Freymann, M.D.
John R. Graham, M.D.
David Littmann, M.D.
Oscar E. Starobin, M.D.
Henry R. Stebbins, M.D.
Frederic Tudor, M.D.
A. Allison Wills, Jr., M.D.

Clinical Assistants in Medicine

Donnell W. Boardman, M.D.
Arthur E. Brown, M.D.
Albert I. C. DeFriez, M.D.
John Denovian, M.D.
Anne F. Godley, M.D.
Charles S. Keevil, Jr., M.D.
Louis Kunian, M.D.
Robert K. Osborne, M.D.
Robert S. Pinals, M.D.
Raymond J. Savignac, M.D.
Gordon duF. Winchell, M.D.

Applied Physicist

Gordon L. Brownell, PH.D.

Associate Applied Physicist

Saul Aronow, PH.D.
Kathleen Stratton, PH.D.

Assistant Applied Physicist

Charles Alden Burnham, M.S.

Physical Chemist

D. Michael Young, M.D.

Associate Biologists

Nancy L. R. Bucher, M.D.
Jerome Gross, M.D.

Associate Biophysicist

Jesse F. Scott, M.D.

Assistant Biophysicist
Herbert J. Sukenik, PH.D., M.D.

Biochemists
Lewis L. Engel, PH.D.
Roger W. Jeanloz, PH.D.

Associate Biochemist
Barbara Wright Kalckar, PH.D.

Assistant Biochemists
Sen-itiroh Hakomori, M.D.
Shelby Kashket, PH.D.
Marvin R. Lamborg, PH.D.
James C. Orr, PH.D.
Kurt Randerath, M.D.
Mary Louise Stephenson, PH.D.

Visiting Biochemist
Alistair M. Stephen, M.D.

Associate Immunologist
Sidney Leskowitz, PH.D.

Consulting Assistant Immunologist
Edna M. Follensby, PH.D.

Consultant in Mathematics to the Physics Research Laboratory
George P. Wadsworth

Consultant to Physics Research Laboratory
M. Stanley Livingston, PH.D., D.SC.

DERMATOLOGY

Chief of Service
Thomas B. Fitzpatrick, M.D., PH.D

Dermatologist
Maurice M. Tolman, M.D.

Assistant Dermatologists
Ruth K. Freinkel, M.D.
Earl A. Glicklich, M.D.
Robert D. Griesemer, M.D.
Milton E. Helman, M.D.
Philip L. McCarthy, M.D.
Robert F. Tilley, M.D.

Assistants in Dermatology
Leroy D. Aaronson, M.D.
Howard P. Baden, M.D.
William L. Curwen, M.D.
Arthur Z. Eisen, M.D.
Irwin M. Freedberg, M.D.
Charles S. Keuper, M.D.
Burnham E. Lamkins, M.D.
Richard Masters, M.D.
Myron H. Matz, M.D.
A. David McGugan, M.D.
Arthur S. Spangler, M.D.

Clinical Associates in Dermatology

Joseph Albert, M.D.
Clito R. Damiani, M.D.
Nicholas J. Fiumara, M.D.
John L. Fromer, M.D.
Basil C. Gray, M.D.
William R. Hill, M.D.
Sabino J. Sinesi, M.D.

Associate Biochemist

Irvin H. Blank, PH.D.

Associate Biologist

George Szabó, PH.D.

Assistant Biochemists

Jean B. Burnett, PH.D.
Madhukar A. Pathak, PH.D.
George F. Wilgram, M.D.

Assistant Physical Chemist

Robert Scheuplein, PH.D.

NEUROLOGY

Chief of Service

Raymond D. Adams, M.D.

Neurologists

Mandel E. Cohen, M.D.
Edwin M. Cole, M.D.
Philip R. Dodge, M.D.
C. Miller Fisher, M.D.
Vincent P. Perlo, M.D.
Edward P. Richardson, M.D.
Robert S. Schwab, M.D.

Associate Neurologists

Pierre M. Dreyfus, M.D.
William H. Timberlake, M.D.
Henry deF. Webster, M.D.

Assistant Neurologists

Hugo W. Moser, M.D.
Ernest H. Picard, M.D.
David C. Poskanzer, M.D.
Richard L. Sidman, M.D.
Karel van Syckel Toll, M.D.

Assistants in Neurology

Barry G. W. Arnason, M.D.
Albert C. England, Jr., M.D.
T. Corwin Fleming, M.D.
Robert E. Flynn, M.D.
Peter R. Huttenlocher, M.D.
Chaim I. Mayman, M.D.
Mary L. Scholl, M.D.
Ruth E. Stauffer, M.D.
Alfred D. Weiss, M.D.
Gerald F. Winkler, M.D.

Neurophysiologists

John S. Barlow, M.D.
Elwood Henneman, M.D.

Psychologist

Murray Sidman, PH.D.

Associate Psychologists

James G. Holland, PH.D.
Lawrence T. Stoddard, PH.D.

Assistant Psychologist
Harry A. Mackay, M.D.

Associate Biochemist
John Gergely, M.D.

Assistant Biochemist
Mary L. Efron, M.D.

PSYCHIATRY

Chief of Service
Erich Lindemann, M.D., PH.D.

Psychiatrists

Gerald Caplan, M.D.
Morris E. Chafetz, M.D.
*Frank R. Ervin, M.D.
Paul M. Howard, M.D.
*John C. Nemiah, M.D.
Gardner C. Quarton, M.D.
Peter E. Sifneos, M.D.
Alfred H. Stanton, M.D.
Avery D. Weisman, M.D.
Elizabeth R. Zetzel, M.D.

Associate Psychiatrists

Herbert J. Barry, Jr., M.D.
Robert L. Bragg, M.D.
Henry H. Brewster, M.D.
Frederick J. Duhl, M.D.
*Thomas P. Hackett, M.D.
*Richmond Holder, M.D.
John H. Lamont, M.D.
Walter Mann, M.D.
*Jack H. Mendelson, M.D.
David E. Reiser, M.D.
Samuel Silverman, M.D.
Jerome L. Weinberger, M.D.

Assistant Psychiatrists

Jason A. Aronson, M.D.
Clemens E. Benda, M.D.
Norman R. Bernstein, M.D.
Frances J. Bonner, M.D.
Franklin Carter, M.D.
Gerald E. Davidson, M.D.
Daniel C. Dawes, M.D.
William H. Eger, M.D.
Freddy H. Frankel, M.D.
Phillip H. Gates, M.D.
Benjamin F. Gill, M.D.
Helen M. Herzan, M.D.
Pierre Johannet, M.D.
Samuel Kaplan, M.D.
Maria Lorenz, M.D.
Edward A. Mason, M.D.
Milton Mazer, M.D.
Edward Messner, M.D.
*Harry S. Olin, M.D.
Maxwell G. Potter, M.D.
Leonard R. Weiner, M.D.

Assistants in Psychiatry

Herbert S. Cline, M.D.
Lucille P. Carter, M.D.
Abraham L. Finesinger, M.D.
Martin J. Kantor, M.D.
Herbert O. LeVine, M.D.
George W. Rever, M.D.
Jack O. Rice, M.D.
William Sharpe, Jr., M.D.
William R. Shelton, M.D.
Harold W. Williams, Jr., M.D.

Clinical Associates in Psychiatry

Ruth M. Crossfield, M.D.
Peter B. Hagopian, M.D.
Bellenden R. Hutcheson, M.D.
Arthur W. McMahon, M.D.
Lionelle D. Wells, M.D.

*Hall-Mercer Hospital Staff

Clinical Assistants in Psychiatry

Joseph H. Brenner, M.D. Bruce W. Fischberg, M.D.

Psychologists

Marc A. Fried, PH.D. Gene M. Smith, PH.D.
Judy F. Rosenblith, PH.D. *George A. Talland, PH.D.
John M. von Felsinger, PH.D.

Associate Psychologists

Howard T. Blane, PH.D. Robert C. Misch, PH.D.
Donald C. Klein, PH.D. Richard R. Peebles, PH.D.
Irving Wolf, PH.D.

Assistant Psychologists

Lenin A. Baler, PH.D. Nancy Mello, PH.D.
Frank M. Buckley, PH.D. James J. Muller, PH.D.
Alvin J. Simmons, PH.D.

Associate Sociologist

Louisa P. Howe, PH.D.

Assistant Sociologists

Mark G. Field, PH.D. Peggy J. Golde, PH.D.
Irving K. Zola, PH.D.

Assistant in Mathematics

Stephen Lorch

Consultant in Biomathematics

Theodore A. Kalin, SC.B.

CHILDREN'S SERVICE

Chief of Service

Nathan B. Talbot, M.D.

Pediatricians

Leo B. Burgin, M.D. Philip R. Dodge, M.D.
John D. Crawford, M.D. Ralph A. Ross, M.D.

Associate Pediatricians

T. Berry Brazelton, M.D. Thomas C. Peebles, M.D.
John P. Connelly, M.D. Robert T. Sceery, M.D.
Lawrence J. Essember, M.D. Mary Louise Scholl, M.D.
Richard B. Kearsley, M.D. Rudolf Toch, M.D.

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*Hall-Mercer Hospital Staff

Assistant Pediatricians

William D. Cochran, M.D.
Nathan H. Fearer, M.D.
Joseph W. Fowler, III, M.D.
Herbert A. Haessler, M.D.
Philip J. Porter, M.D.
Edward F. Rabe, M.D.
John S. Robey, M.D.
Benjamin Sachs, M.D.
Boris Senior, M.D.
Dorothy B. Villee, M.D.

Assistants in Pediatrics

Arnold D. Fiascone, M.D.
Andrew D. Guthrie, Jr., M.D.
Peter R. Huttenlocher, M.D.
John B. Joseph, M.D.
M. Edward Keenan, M.D.
Stephen L. Reynolds, M.D.
Peter B. Rosenberger, M.D.
Murray K. Rosenthal, M.D.
Jordan S. Ruboy, M.D.
Lois M. Smedley, M.D.
Lester F. Soyka, M.D.

Clinical Associates in Pediatrics

William J. Adelson, M.D.
Elroy E. Anderson, M.D.
Donald J. Annino, M.D.
Doris R. Bennett, M.D.
James J. A. Cavanaugh, M.D.
William A. Dickson, M.D.
Robert A. Driscoll, M.D.
John A. Duggan, M.D.
Edward C. Dyer, M.D.
Leroy L. Eldredge, Jr., M.D.
John G. Flynn, M.D.
Thomas Frank, M.D.
George A. Glines, M.D.
Theodore S. Golden, M.D.
Joseph L. Lewis, M.D.
Joseph J. McGovern, M.D.
Edward F. McGrath, M.D.
Francis C. McDonald, M.D.
Alexander S. MacDonald, M.D.
Donald M. Muirhead, Jr., M.D.
Charlotte G. Neumann, M.D.
James A. O'Shea, M.D.
William Pfeffer, Jr., M.D.
Walter Pick, M.D.
Charles V. Pryles, M.D.
Leonard H. Plotkin, M.D.
Robert H. Richie, Jr., M.D.
Gertrud C. Reyersbach, M.D.
Marion L. Slemons, M.D.
Joseph F. Stocks, M.D.
Wilhelmina Van Dyke, M.D.
Richard H. Watson, M.D.
Robert F. Wilson, M.D.
Thomas J. Whitfield, M.D.
Eleanore C. Zaudy, M.D.
Alan Ziskind, M.D.

Psychologist

Jerome Kagan, PH.D.

Associate in Psychology

Marvin Snider, PH.D.

Staff assigned from other Services and Departments

General Surgery:
W. Hardy Hendren, III, M.D.
William C. Quinby, Jr., M.D.
W. Gerald Austen, M.D.
John D. Constable, M.D.

Gynecologic Surgery:	Howard Ulfelder, M.D.
Orthopedic Surgery:	J. Drennan Lowell, M.D.
Urological Surgery:	Guy W. Leadbetter, M.D.
Psychiatry:	Richmond Holder, M.D. George W. Rever, M.D.
Dental Medicine:	David Weisberger, D.M.D., M.D.
Anesthesia:	Phillips Hallowell, M.D.

SURGICAL DIVISION

GENERAL SURGERY

Chief of Surgical Services

Paul S. Russell, M.D.

Visiting Surgeons

Marshall K. Bartlett, M.D.
Bradford Cannon, M.D.
Oliver Cope, M.D.
Gordon A. Donaldson, M.D.
F. Thomas Gephart, M.D.
Edward Hamlin, Jr., M.D.
Francis M. Ingersoll, M.D.
J. Gordon Scannell, M.D.
Claude E. Welch, M.D.

Associate Visiting Surgeons

W. Gerald Austen, M.D.
John F. Burke, M.D.
Thomas H. Green, Jr., M.D.
Hermes C. Grillo, M.D.
George L. Nardi, M.D.
W. Hardy Hendren, M.D.
John W. Raker, M.D.
George S. Richardson, M.D.
Grant V. Rodkey, M.D.
*Robert S. Shaw, M.D.
Frank C. Wheelock, Jr., M.D.
Earle W. Wilkins, Jr., M.D.

Assistant Surgeons

Benjamin A. Barnes, M.D.
Glenn E. Behringer, M.D.
John D. Constable, M.D.
Celso-Ramon Garcia, M.D.
John M. Head, M.D.
Charles E. Huggins, M.D.
John B. McKittrick, M.D.
Charles G. Mixter, Jr., M.D.
William C. Quinby, Jr., M.D.
William P. Rogers, Jr., M.D.
Edwin W. Salzman, M.D.

Assistants in Surgery

Edwin L. Carter, M.D.
R. Clement Darling, M.D.
John W. Grover, M.D.
Stephen E. Hedberg, M.D.
Ronald A. Malt, M.D.
Charles F. McKhann, M.D.
Anthony P. Monaco, M.D.
Chiu-an Wang, M.D.

Clinical Associates in Surgery

Richard C. Austin, M.D.
Martin J. Bellinger, M.D.
Charles B. Burbank, M.D.
Richard R. Curtin, M.D.
Chester J. Dexter, M.D.
George F. Emerson, M.D.
Edward L. Ferguson, M.D.
Gerald G. Garcelon, M.D.
Frank W. Garran, Jr., M.D.
Walter E. Garrey, M.D.
Ward I. Gregg, M.D.
Irad B. Hardy, M.D.
Clement A. Hiebert, M.D.
Joseph A. Holmes, M.D.
Lawrence J. Malone, M.D.
William K. McClelland, M.D.
Carroll C. Miller, M.D.
Joseph E. Murray, M.D.
Anthony S. Patton, M.D.
Spiros P. Sarris, M.D.
James M. Shannon, M.D.
Richard H. Thompson, M.D.
Masao Yatsuhashi, M.D.

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*On leave of absence

Clinical Assistants in Surgery

James M. Doonan, M.D.
Jason I. Greenstein, M.D.
Paul F. Gryska, M.D.
Eugene A. Guralnick, M.D.
John B. Herrmann, M.D.
Peter J. Mozden, M.D.
John V. Pikula, M.D.
Aram Roopenian, M.D.
John L. Rowbotham, M.D.
D. Albert Young, M.D.

ANESTHESIA

Chief of Service

Henry K. Beecher, M.D.

Anesthetists

Henrik Holt Bendixen, M.D.
Phillips Hallowell, M.D.
Donald P. Todd, M.D.

Associate Anesthetists

George E. Battit, M.D.
Lawrence D. Egbert, M.D.
John W. D. Garrett, M.D.
Myron B. Laver, M.D.
Henning Pontoppidan, M.D.
Eliot Macy Slater, M.D.

Assistant Anesthetists

Michael H. M. Dykes, M.B., B.CHIR.
John Hedley-Whyte, M.B., B.CHIR.
Bucknam McPeek, M.D.
Roger H. Morris, M.D.
John D. Murphy, M.D.
Talbot D. Seigne, M.B., B.CHIR.
Howard A. Trachtenberg, M.D.

Assistants in Anesthesia

Cesare G. Coletta, M.D.
Thomas J. Keenan, M.D.
Susanne J. Lamdin, M.D.
Edward Lowenstein, M.D.
Sarita G. Walzer, M.D.

Psychologist

Gene M. Smith, PH.D.

Assistant Psychologist

James E. Anliker, PH.D.

GYNECOLOGY

Chief of Service

Howard Ulfelder, M.D.

Staff shared with General Medical and Surgical Services

NEUROSURGERY

Chief of Service
William H. Sweet, M.D., D.SC.

Visiting Neurosurgeon
H. Thomas Ballantine, Jr., M.D.

Assistant Neurosurgeons
Hannibal Hamlin, M.D. Raymond N. Kjellberg, M.D.

Assistants in Neurosurgery
Robert G. Ojemann, M.D. R. Lewis Wright, M.D.

Associate Biochemist in Neurosurgery
Adelbert Ames, III, M.D.

Associate Chemist in Neurosurgery
Albert H. Soloway, PH.D.

Associate Neurophysiologist in Neurosurgery
Lawrence Stark, M.D.

Assistant Biophysicist in Neurosurgery
Stanley Bullivant, PH.D.

Assistant Neurophysiologist in Neurosurgery
Padmakar P. Lele, M.D., PH.D.

Assistant Psychologist in Neurosurgery
Marianne L. Simmel, PH.D.

Clinical Associates in Neurosurgery
Vernon H. Mark, M.D. Jost J. Michelsen, M.D.

Clinical Assistant in Neurosurgery
Murray H. Helfant, M.D.

ORTHOPEDIC SURGERY

Acting Chief of Service
Thornton Brown, M.D.

Consulting Visiting Orthopedic Surgeon
Edwin F. Cave, M.D.

Visiting Orthopedic Surgeon
Otto E. Aufranc, M.D.

Associate Orthopedic Surgeon
Carter R. Rowe, M.D.

Assistant Orthopedic Surgeons

Thomas L. DeLorme, M.D.
Melvin J. Glimcher, M.D.
William H. Harris, M.D.
William N. Jones, M.D.
William R. MacAusland, Jr., M.D.
Eugene E. Record, M.D.
John A. Reidy, M.D.
Morten Smith-Petersen, M.D.

Assistants in Orthopedic Surgery

William C. Bostic, M.D.
Robert B. Brendze, M.D.
William L. Kermond, M.D.
J. Drennan Lowell, M.D.
Richard A. Mayo, M.D.
Edward A. Nalebuff, M.D.
Donald S. Pierce, M.D.
Edward J. Riseborough, M.D.
Edwin T. Wyman, Jr., M.D.

Clinical Associates in Orthopedic Surgery

Thomas F. Broderick, Jr., M.D.
William G. Stewart, Jr., M.D.

Podiatrist

John D. McLean, D.S.C.

Assistant Podiatrists

Edward R. Bloom, D.S.C.
Donald D. Donovan, D.S.C.
Ralph W. Spinelli, D.S.C.
Homer J. Squires, D.S.C.

Clinical Assistants in Orthopedic Surgery

Hugh P. Chandler, M.D.
James S. Hewson, M.D.
Philip I. Salib, M.D.

UROLOGY

Chief of Service

Wyland F. Leadbetter, M.D.

Consulting Visiting Urologist

Sylvester B. Kelley, M.D.

Visiting Urologists

Walter S. Kerr, Jr., M.D.
Howard I. Suby, M.D.

Assistant Urologists

Guy W. Leadbetter, Jr., M.D.
Edward C. Parkhurst, M.D.
Lorande M. Woodruff, M.D.

Assistants in Urology

Joshua J. Hurwitz, M.D.
Harold A. Rudy, M.D.
William L. Strickler, M.D.

Clinical Associate in Urology

Emil J. Ganem, M.D.

Clinical Associates in Obstetrics

Robert H. Barker, M.D.
A. Gordon Gauld, M.D.
John L. Newell, M.D.
Charles P. Sheldon, M.D.
Bartlett H. Stone, M.D.

DENTAL MEDICINE

Oral Surgeon and Chief of Dental Medicine

David Weisberger, D.M.D., M.D.

Assistant Oral Surgeons

Harold A. Carnes, D.M.D.
Henry J. Carney, D.M.D.
George Christman, D.M.D.
Walter C. Guralnick, D.M.D.
Richard L. Miner, D.D.S.
Earle H. Rosenberg, D.M.D.
Norman Trieger, D.M.D.

Dental Surgeons

Harold A. Bratt, D.M.D.
William L. Cosgrove, D.M.D.
Peter A. Dempsey, D.M.D.
Charles H. Endee, D.M.D.
Henry D. Howe, D.M.D.
Peter G. Kimball, D.M.D.
Owen W. Kite, D.D.S.
Glenn W. Lawrence, D.M.D.
Robert C. Lincoln, D.M.D.
Morton J. Olin, D.M.D.
Frederick K. Poulin, D.M.D.
Donald B. Rae, D.D.S.
Frank I. Rhodes, D.M.D.
Keith A. Shangraw, D.M.D.
J. Henry Stempien, D.M.D.
William H. Tingey, Jr., D.M.D.
Earle J. Waddington, D.M.D.

Assistant Dental Surgeons

Laurence I. Barsh, D.M.D.
Julius J. Levitan, D.M.D.
Joseph C. Oakley, D.M.D.
Symon C. Polansky, D.M.D.
Leonard B. Shulman, D.M.D.
John B. Taylor, D.D.S.

Clinical Associates in Dental Medicine

Herman DeWilde, D.M.D.
Daniel J. Holland, Jr., D.D.S.
George M. Noss, D.M.D.
Charles E. Rounds, D.M.D.
Edward L. Sleeper D.D.S.

DEPARTMENTS

PATHOLOGY

Chief of Department
Benjamin Castleman, M.D.

Pathologists
Richard B. Cohen, M.D.
Robert E. Scully, M.D.
Edgar B. Taft, M.D.
Austin L. Vickery, Jr., M.D.

Associate Pathologists
Leonard Atkins, M.D.
Wallace H. Clark, Jr., M.D.
James B. Caulfield, M.D.

Associate Visiting Pathologist
Ronald C. Sniffen, M.D.

Assistant Pathologists
Karoly Balogh, M.D.
Martin H. Flax, M.D.
Wallace A. Jones, M.D.
Sanford I. Roth, M.D.
Priscilla Dienes Taft, M.D.

Assistants in Pathology
F. Daniel Foley, M.D.
Hubert J. Wolfe, M.D.

Clinical Associate in Pathology
Robert Fienberg, M.D.

Clinical Assistants in Pathology
Sheldon Cooperman, M.D.
G. Richard Dickersin, M.D.
Robert S. Harper, M.D.
George F. Kwass, M.D.

Neuropathologists
Raymond D. Adams, M.D.
Edward P. Richardson, M.D.

Associate Neuropathologist
C. Miller Fisher, M.D.

Assistant Neuropathologist
Henry deF. Webster, M.D.

BIOCHEMICAL RESEARCH

Henry S. Wellcome Research Biochemist
Herman M. Kalckar, M.D., PH.D.

Assistant Biochemists
Robert A. Darrow, PH.D.
Kaney Ebisuzaki, PH.D.
Hiroshi Nikaido, M.D., PH.D.
Annette M. C. Rapin, PH.D.

Research Associate
James P. Koch, M.D.

BACTERIOLOGY

Bacteriologist
Lawrence J. Kunz, PH.D.

Assistant Bacteriologist
Barbara K. Watson, PH.D.

CLINICAL CHEMISTRY LABORATORIES

Chief
Sidney V. Rieder, M.D.

CLINICAL LABORATORIES

Director
William S. Beck, M.D.

RADIOLOGY

Chief of Department
Laurence L. Robbins, M.D.

Radiologists

Milford D. Schulz, M.D.
Stanley M. Wyman, M.D.

Associate Radiologists

Jack R. Dreyfuss, M.D.
J. Malcolm MacNeill, M.D.
Paul F. J. New, M.D.
Henry P. Pendergrass, M.D.
Majic S. Potsaid, M.D.
Chiu-chen Wang, M.D.

Consulting Visiting Radiologist
Richard Schatzki, M.D.

Visiting Radiologist
Lucy F. Squire, M.D.

Assistant Radiologists

Robert E. Dinsmore, M.D.
*Douglas H. Howry, M.D.
*K. Jack Momose, M.D.
Frederick S. Tomchik, M.D.
Alfred L. Weber, M.D.
Walther T. Weylman, M.D.

Assistants in Radiology

D. Neil Dickson, M.D.
*Derek J. Goodman, M.D., B.S.
Murray L. Janower, M.D.
*Edward J. Kelly, M.D.
Robert A. Nebesar, M.D.
*Willard Perry, Jr., M.D.
James J. Pollard, M.D.
James A. Rourke, M.D.

---

*When Mass. license received

Clinical Associates in Radiology

Joseph Hanelin, M.D. H. Peter Mueller, M.D.
Richard G. O'Brien, M.D.

Clinical Assistants in Radiology

D. Glyn Millard, M.D. James A. Peterson, M.D.
Abbott R. Miller, M.D. John T. Pollard, Jr., M.D.

Engineer
Malcolm Mackay

Assistant Chemist
James C. McClymont, Jr., PH.D.

Physicist
Edward W. Webster, PH.D.

Assistant Physicist
Antonios A. Apostolides, PH.D.

PHYSICAL MEDICINE

Chief of Physical Medicine
Arthur L. Watkins, M.D.

BLOOD BANK AND TRANSFUSION SERVICE

Director
Morten Grove-Rasmussen, M.D.

Assistant Directors

Charles E. Huggins, M.D. Edwin W. Salzman, M.D.
*Robert S. Shaw, M.D.

CONSULTANTS

Consultant in Medicine
Benjamin G. Ferris, M.D.

Consultants in Preventive Medicine

John E. Gordon, M.D. David D. Rutstein, M.D.

Consultant in Tropical Diseases
George C. Shattuck, M.D.

Consultant in Neuropathology
Paul I. Yakovlev, M.D.

Consultants to Children's Service

William Berenberg, M.D. Louis K. Diamond, M.D.
Stewart H. Clifford, M.D. Alexander S. Nadas, M.D.

---

*On leave of absence

Consultant in Neonatology
Clement A. Smith, M.D.

Consultant in Biophysics in Neurosurgery
Eugene Bell, M.SC., PH.D.

Consultants to Orthopedic Service
Morris Cohen, M.D.
Robert J. Hansen, SC.D.

Consultant in Physics to Orthopedic Service
George Scatchard, PH.D.

Consultant in Pathology
Walter G. J. Putschar, M.D.

Consultant in Forensic Pathology
Michael A. Luongo, M.D.

Consultants in Radiology
Henry I. Kohn, PH.D., M.D.
Edward B. D. Neuhauser, M.D.
John B. Little, M.D.
Melvin Tefft, M.D.

Consultants in Physics
Robley D. Evans, PH.D.
John G. Trump, D.SC.

Consultants in Pharmacology
Oleg Jardetzky, M.D., PH.D.
Otto Krayer, M.D.

Consultant in Chemical Engineering
Edward W. Merrill, D.SC.

HOUSE STAFF

Residents and Interns
As of January 1, 1965

Medicine

Chief Resident: Hugh H. Kopald, M.D.

Residents:

William T. Butler, M.D.
Bruce F. Bower, M.D.
Frank F. Davidoff, M.D.
Stephen E. Goldfinger, M.D.
Raphael F. Smith, M.D.
Samuel O. Thier, M.D.
Faruk M. Yenel, M.D.

Assistant Residents:

Arthur J. Atkinson, Jr., M.D.
Winthrop H. Churchill, Jr., M.D.
Robert B. Copeland, M.D.
Thomas F. Deuel, M.D.
Lloyd A. Ferguson, M.D.
Bernard G. Forget, M.D.
Thomas D. Gelehrter, M.D.
Jack M. George, M.D.
Albert R. Martin, M.D.
Frederick L. Moolton, M.D.
Gordon T. Moore, M.D.
John Noble, Jr., M.D.
Richard K. Root, M.D.
Jay H. Sanders, M.D.

Interns:

Peter C. Block, M.D.
Elizabeth W. Frederick, M.D.
Charles J. Glueck, M.D.
Ronald B. Herberman, M.D.
Cyrus C. Hopkins, M.D.
John J. Hutton, Jr., M.D.
Adolf W. Karchmer, M.D.
Robert S. Lawrence, M.D.
James C. McFarland, M.D.
Charles P. O'Brien, M.D.
Oscar D. Taunton, M.D.
William T. Thach, Jr., M.D.

Dermatology

Assistant Residents:

B. Alan Flaxman, M.D.
William F. Gallagher, M.D.
David R. Moloney, M.D.
E. Laurie Tolman, M.D.

Neurology

Resident: Robert R. Young, M.D.

Assistant Residents:

Verne S. Caviness, Jr., M.D.
Alan L. Pearlman, M.D.
John F. Griffith, M.D.

Psychiatry

Assistant Residents:

Marianne Dierks, M.D.
Morton V. Feldman, M.D.

Children's

Assistant Residents:

Ralph D. Feigin, M.D.
Mark E. Molliver, M.D.

Thorlakur S. Halldorsson, M.D.
Gerald W. Hazard, M.D.
Lewis B. Holmes, M.D.
Michael A. Kornfield, M.D.
Andrea H. Nash, M.D.
Esther H. Robinson, M.D.
John C. Robinson, M.D.
Daniel C. Shannon, M.D.

Interns:

Jack A. Klapper, Jr., M.D.
Bruce M. Rosenberg, M.D.
Arnold L. Smith, M.D.
Joseph J. Volpe, M.D.

Surgery

Residents:

Moses J. Folkman, M.D.
David B. Skinner, M.D.

First Assistant Residents:

Joseph R. Barrie, M.D.
Mortimer J. Buckley, Jr., M.D.
James R. Callison, M.D.
Lucian L. Leape, Jr., M.D.
John W. Madden, M.D.
Gerald S. Moss, M.D.
Leslie W. Ottinger, M.D.
Livingston M. F. Wong, M.D.

Second Assistant Residents:

William M. Abbott, M.D.
George Andros, M.D.
Charles R. F. Baker, Jr., M.D.
Sheldon C. Binder, M.D.
Willard M. Daggett, Jr., M.D.
Graeme L. Hammond, M.D.
Michael E. Jabaley, M.D.
Robert L. Reploge, M.D.
Raphael H. Levey, M.D.
George A. May, Jr., M.D.
Joseph J. McNamara, M.D.
Ashby C. Moncure, M.D.
Eldred D. Mundth, M.D.
Dennis D. O'Keefe, M.D.
Robert E. Sweat, M.D.
Bruce E. Zawacki, M.D.

Third Assistant Residents:

Douglas M. Behrendt, M.D.
Wallace H-J Chang, M.D.
Joseph M. Civetta, M.D.
Preston H. Gada, M.D.
Bruce D. Nelson, M.D.
Joseph B. Philipson, Jr., M.D.
Andrew L. Warshaw, M.D.
Dennis R. Whitlow, M.D.

Interns:

David S. Chapin, M.D.
Paul H. Chapman, M.D.
Joel D. Cooper, M.D.
A. Benedict Cosimi, M.D.
Michael B. Lewis, M.D.
Michael T. McEnany, M.D.
John B. Mulliken, M.D.
Martin J. Nathan, M.D.
Dale Purves, M.D.
James J. Ryan, M.D.
Donald G. Skinner, M.D.
Stephen R. Waltman, M.D.

Neurosurgery

Chief Resident: Edward P. Baker, Jr., M.D.

Assistant Residents:

Jerald S. Brodkey, M.D.
Robert C. Cantu, M.D.
Frank H. Duffy, M.D.
Yechiel D. Heilbronn, M.D.
Alberto Prieto, Jr., M.D.
James G. Wepsic, M.D.

Anesthesia

Chief Resident: Leonard S. Bushnell, M.D.

Assistant Residents:

John H. Barsch, M.D.
Sidney A. Blubaugh, M.D.
Chester J. Flynn, M.D.
Janusz F. Kacki, M.D.
Allen Schaengold, M.D.
Kunio Suwa, M.D.
F. Howard Taggart, Jr., M.D.
Arthur D. Thomas, M.D.
Peter M. Winter, M.D.
Sybil Wong Woo, M.D.
Richard Zavarine, M.D.

Orthopedic

Resident: Lynn L. Ault, M.D.

Assistant Residents:

Michael A. Ashworth, M.D.
Robert J. Boyd, M.D.
Carl F. Brunjes, M.D.
David W. Grainger, M.D.
John E. Larkin, Jr., M.D.
Eugene J. Morrissey, M.D.
Charles L. Renshaw, M.D.
Joseph L. Shaw, M.D.
William H. Sullivan, M.D.
William H. Thomas, M.D.
Roderick H. Turner, M.D.
Henry S. Urbaniak, Jr., M.D.
Kirby L. C. Von Kessler, M.D.

Urology

Resident: John P. Donohue, M.D.

Assistant Residents:

Frank E. Carlton, M.D.
Elwin E. Fraley, M.D.
Donald B. Halverstadt, M.D.
Philip J. Howard, Jr., M.D.
William L. Weems, M.D.

Pathology

Resident: James M. Gibson, M.D.

Assistant Residents:

John R. Baringer, M.D.
Carol A. Bell, M.D.
Francisco Civantos, M.D.
Joseph W. Estes, M.D.
Norman G. Helgeson, M.D.
Gerald Nash, M.D.
Takashi Okagaki, M.D.
Joel Umlas, M.D.

Radiology

Resident: Luiz F. Mattoso, M.D.

Assistant Residents:

Joseph T. Ferrucci, Jr., M.D.
Donald J. Fleischli, M.D.
Bruce J. Haskin, M.D.
Gerald M. Kolodny, M.D.
Ronald A. Seltzer, M.D.
Thomas E. Shea, M.D.
Dale E. Wenlund, M.D.
Jack Wittenberg, M.D.
George F. Zinninger, M.D.

Dental

Resident:

Barry J. Agranat, M.D.

Interns:

Zygmunt W. Poczatek, M.D.

Arthur L. Sperling, M.D.

CLINICAL AND RESEARCH FELLOWS

Medicine

David A. Alpers, M.D.
Yoshiro Aso, M.D.
Diego Bellabarba, M.D.
Jose A. Berrocal, M.D.
John Bienstock, M.D.
John A. Bolzan, M.D.
Marie-Helene M. Buc, M.D.
Kenneth Burton, PH.D.
Eduardo Carvello-Gil, M.D.
George Cherian, M.D.
Mortimer M. Civan, M.D.
Dharam Vir Datta, M.D.
Charles H. Doering, M.D.
Maria Luisa Dufau, M.D.
Arthur Z. Eisen, M.D.
Bernard N. Fields, M.D.
Gordon G. Forstner, M.D.
Joseph W. Fowler, III, M.D.
Kenneth H. Gabbay, M.D.
Richard C. Graham, Jr., M.D.
Norton J. Greenberger, M.D.
Paul H. Gross, M.D.
Garrett A. Hagen, M.D.
John A. Haines, PH.D.
Carlton I. Halle, M.D.
J. Warren Harthorne, M.D.
Audrey E. V. Haschemeyer, PH.D.
Dennis E. Hyams, M.D.
Claude M. Janeway, PH.D.
John J. Jeffrey, Jr., PH.D.
James C. Jordan, M.D.
Robert E. Kahn, M.D.
Paul A. Kantrowitz, M.D.
Borislav T. Karanfilski, M.D.
Harry J. Karavolas, B.S.
Yashwant D. Karkhanis, PH.D.
Eugeniusz J. Koscielak, M.D.
Norman S. Lichtenstein, M.D.
Jan-Gustaf C. A. Ljunggren, M.D.
Jean-Pierre Mach, M.D.
Robert P. Martin, PH.D.
Horace M. Mazzone, PH.D.
Donald McCaughan, M.D.
Lawrence M. Miller, M.D.
Joaquin Mouriz, M.D.
Richard K. Myler, M.D.
Charles A. Nagant de Deuxchaisnes, M.D.
Nasir-ud-din, PH.D.
Hans B. Nevinny-Stickel, M.D.
Robert Ouellette, PH.D.
David W. Parsons, M.D.
Victor Parsons, B.M., B.CH.
Joseph G. Pittman, M.D.
Elinor D. U. Powell, M.D.
Eduardo Pretell, M.D.
Pentti K. Reissell, M.D.
Alistair G. C. Renwick, M.D.
Frank F. Richards, M.D.
John B. Rodgers, M.D.
Howard E. Rotner, M.D.
Mark Ruderman, M.D.
Seymour M. Sabesin, M.D.
Takahiro Sakai, M.D.
Prem S. Sarin, M.D.
Lewis Sasse, M.D.
Arnold J. Schecter, M.D.
Robert B. Scott, M.D.
David P. Segel, M.D.
Geoffrey M. G. Sharp, PH.D.

Shmuel Shoshan, PH.D.
Martin J. Smith, M.D.
Isadore Starr, M.D.
William E. Strole, Jr., M.D.
Kay Tanaka, M.D.
Marvin L. Tanzer, M.D.
Douglas H. Thomson, PH.D.
John T. Truman, M.D.
Mohammed M. M. Uwaydan, M.D.
Michel B. Vollotton, M.D.
Robert B. Van Cleve, M.D.
Henri G. Vetter
Ta-hsien Wei, PH.D.
R. Bruce Wilcox, PH.D.
Peter Cho-Yiu Wong, M.D.
Rose Kam Long Wong, M.D.
Richard J. Wurtman, M.D.
Peter M. Yurchak, M.D.
Uri Zehavi, PH.D.

Dermatology

Kenneth A. Arndt, M.D.
Kiitchi Ishikawa, M.D.
Raymond J. McGill, M.D.
Martin C. Mihm, Jr., M.D.
Robert B. Scoggins, M.D.
Shing Yiu Yip, M.D.

Psychiatry

Harold Abramowitz, M.D.
Sherry B. Autor, PH.D.
Jane E. Bain, M.D.
Rosalind C. Barnett, PH.D.
Leslie Brooks, M.D.
Douglas Buchanan, M.D.
Randolph Catlin, Jr., M.D.
Robert Cserr, M.D.
Richard F. Curran, M.D.
Joseph J. Danis, M.D.
Dave McA. Davis, M.D.
Theodore Dreier, Jr., M.D.
Matthew P. Dumont, M.D.
Anthony E. Elite, M.D.
Amir M. Farhadi, M.D.
Donald J. Fern, M.D.
Claire A. Fishman, PH.D.
Eugene A. Glick, M.D.
*Peter J. Gottwald, M.D.
Philip Gross, M.D.
Duane Q. Hagen, M.D.
Audrey M. Jones, M.D.
Alexandra M. Kail, M.D.
Alfred J. R. Koumans, M.D.
Dubrevko M. Kuftinec, M.D.
Zlatko M. Kuftinec, M.D.
Miguel A. Leibovich, M.D.
John B. Livingstone, M.D.
Michael T. McGuire, M.D.
Arnold Miller, PH.D.
Allan H. Milofsky, M.D.
Muriel E. Moldawer, M.D.
Nancy T. P. Nichols, M.D.
Frank J. Paolitto, M.D.
Mark W. Rhine, M.D.
Lawrence C. Salvesen, M.D.
*David G. Satin, M.D.
Alan P. Sheldon, M.D.
John B. Spillane, M.D.
Stefan P. Stein, M.D.
Larry H. Strasburger, M.D.
Sinclair S. Sutherland, M.D.
Robert H. Trivus, M.D.
Joseph L. Zerman, M.D.

Pediatrics

Krishna M. Saxena, M.D.
Ingeborg van Pelt, M.D.
William van Pelt, M.D.

*Hall-Mercer Hospital Staff

Neurology

Otto Appenzeller, M.D.
John W. Benton, M.D.
Michael G. Fusillo, M.D.
Robert E. Hayes, III., M.D.
Edwin H. Kolodny, M.D.
Wolfgang J. Michelsen, M.D.
Eduardo Mirabal-Font, M.D.
Ana J. Roman de Francis, M.D.
Remedios R. K. Rosales, M.D.
Norman P. Rosman, M.D.
Frederick J. Samaha, M.D.
Carlos S. Uribe, M.D.
Sasson S. Gubbay, M.B., B.S.

Neuropathology

Arthur K. Asbury, M.D.
Thomas N. Chase, M.D.
Bennett M. Derby, M.D.
Laurent Descarries, M.D.
Joshua Hollander, M.D.
Byron A. Kakulas, M.D.
Andre-Roch Lecours, M.D.
Shyam S. Pant, M.D.
Arthur L. Prensky, M.D.
Donald L. Price, M.D.
Peter B. B. Rosenberger, M.D.
Jean J. Rubeiz, M.D.
Stephen L. Wanger, M.D.

Surgery

Rodolfo E. Alvarado, M.D.
T. Angelillo-Mackinlay, M.D.
Alvaro Caro, M.D.
John G. Corson, M.D.
Gustav J. Fraenkel, M.D.
Gordon J. Johnson, M.D.
Nigel C. Keddie, M.D.
Lee V. Leak, PH.D.
Edward D. McLaughlin, M.D.
Tsuyoshi Miura, M.D.
John McE. Moran, M.D.
Peter J. Morris, M.D.
Hiran K. Nath, M.B.B.S., M.S.
Henry B. Othersen, Jr., M.D.
Angel M. Paredes, M.D.
Anne W. Phillips, M.D.
Juan C. Piccinini, M.D.
John L. Provan, M.D.

Anesthesia

Joan M. Brown, M.D.
Cesare G. Coletta, M.D.
Joan W. Flacke, M.D.
Chawki Haddad, M.D.
Hartmut B. Heitmann, M.D.
John A. Goodwin, M.D.
Olafur Jonsson, M.D.
Mary J. Morris, M.B.B.S.
Patricia W. Osgood
Judith A. Tassie, M.D.
Dorothy A. Westcott, M.D.

Neurosurgery

Samuel M. Boctor, M.D.
Douglas N. Butler, PH.D.
Toyoaki Chiba, M.D.
James E. Cleaver, PH.D.
Peter Gortvai, M.B., B.CHIR.M.CHIR.
Fritz Haslinger, PH.D.
Hiroshi Hatanaka, M.D.
Masayoshi Kowada, M.D.
Alexander G. MacIntyre, M.D.
Pasko Rakic, M.D.
David C. Smith, M.D.
Shyam B. Yodh, M.D.

Orthopedic Surgery

Anthony L. Andrikides, PH.D.
Laurence C. Bonar, A.B.
Camille J. Francois, M.D.
Arthur H. Holmboe, M.D.
Robert W. Jackson, M.D.
Elton P. Katz, PH.D.
Murray V. King, PH.D.
Philip T. Levine, D.M.D.
Gerald L. Mechanic, PH.D.
Dorothy F. Travis, PH.D.

Pathology

Sheldon S. Baddock, M.D.
Juanito B. Billote, M.D.
John B. Blennerhassett, M.D.
Glenda R. E. W. Brodky, M.D.
Arthur W. Duff, M.D.
Harold F. Dvorak, M.D.
Luiz A. A. Fagundes, M.D.
Hanne Gram, M.D.
Jonas Hallgrimsson, M.D.
G. Allen Holloway, Jr., M.D.
Charles G. Huizenga, M.D.
Albert R. Keller, M.D.
Melvin Lederman, M.D.
Kilmer S. McCully, M.D.
Barbara H. Sanford, PH.D.

Radiology

Melvin E. Clouse, M.D.
Derek J. Goodman, M.D.
Delbert J. Heslin, M.D.
Douglas H. Howry, M.D.
K. Jack Momose, M.D.
William J. Otto, Jr., M.D.
Shigeru Shibata, M.D.
Richard J. Steckel, M.D.
Donald L. Stone, M.D.
Roland G. Ware, Jr., M.D.

Biochemical Research

Amar N. Bhaduri, PH.D.
Yorio Naide, M.D.
Erika E. Randerath, PH.D.

Dental Medcine

Robert E. Evans, D.M.D.
Donald L. Leake, D.M.D.

Blood Bank

*Anthony F. H. Britten, M.D.

*On leave of absence

McLEAN HOSPITAL

List of Officers of the McLean Hospital will be found on page 183.

The Ophthalmological and Otolaryngological needs of the Massachusetts General Hospital are served by the Massachusetts Eye and Ear Infirmary. Their Staff becomes a part of the Staff of the Massachusetts General Hospital and is as follows:

MASSACHUSETTS EYE AND EAR INFIRMARY

DEPARTMENT OF OPHTHALMOLOGY

Chief of Ophthalmology

David G. Cogan, M.D.

Associate Chief of Opthalmology for Clinical Services

Carl C. Johnson, M.D.

Surgeons in Ophthalmology

Brendan D. Leahey, M.D.
Mahlon T. Easton, M.D.
Garrett L. Sullivan, M.D.
Albert E. Sloane, M.D.
Carl C. Johnson,, M.D.
Earl S. Seale, M.D.

Associate Surgeons in Ophthalmology

Thomas Cavanaugh, M.D.
Henry F. Allen, M.D.
W. Morton Grant, M.D.
Sumner D. Liebman, M.D.
Abraham Pollen, M.D.
Charles L. Schepens, M.D.
Harry E. Braconier, M.D.
Joseph M. Clough, M.D.
Karl Riemer, M.D.
Henry A. Mosher, M.D.
Francis J. West, M.D.
Robert J. Brockhurst, M.D.
Taylor R. Smith, M.D.

Assistant Surgeons in Ophthalmology

Charles H. MacLaughlin, M.D.
Julian F. Chisholm, Jr., M.D.
Richard B. Pippitt, M.D.
David H. Scott, M.D.
Frederic B. Breed, M.D.
Warren D. Haley, M.D.
Thomas P. Cronin, M.D.
John M. Hill, M.D.
Arthur M. Morrissey, M.D.
Ichiro D. Okamura, M.D.
D. Robert Alpert, M.D.
Charles D. J. Regan, M.D.
David D. Donaldson, M.D.
Robert J. Herm, M.D.
Alfred W. Scott, M.D.
S. Arthur Boruchoff, M.D.

Assistants in Ophthalmology

Lloyd M. Aiello, M.D.
Arthur F. Calnan, M.D.
John M. Carroll, M.D.
Richard B. Chapman, M.D.
Eugene C. Ciccarelli, M.D.
Claes-Henrik Dohlman, M.D.
Carl Gates Freese, Jr., M.D.
Ephraim Friedman, M.D.
John R. Gehring, M.D.
Ralph H. Hinckley, M.D.
Paul D. Hurley, M.D.
Robert S. L. Kinder, M.D.
Carl Kuper, M.D.
Robert C. Lawlor, M.D.
Byron S. Lingeman, M.D.
Irwin T. Mancall, M.D.
J. Wallace McMeel, M.D.
Bertha Offenbach, M.D.
George M. Olive, Jr., M.D.
Irving L. Pavlo, M.D.
Robert D. Reinecke, M.D.
Paul M. Runge, M.D.
Baruch J. Sachs, M.D.
Richard J. Simmons, M.D.
Donald R. Weiss, M.D.
Michael Wiedman, M.D.
Jeremy B. Whitney, M.D.

Director of Ophthalmic Pathology

Taylor R. Smith, M.D.

DEPARTMENT OF OTOLARYNGOLOGY

Chief of Otolaryngology

Harold F. Schuknecht, M.D.

Surgeons in Otolaryngology

John R. Richardson, M.D.
John R. Frazee, M.D.
Joseph Lentine, M.D.
J. Charles Drooker, M.D.
Daniel Miller, M.D.
Donald K. Lewis, M.D.

Associate Surgeons in Otolaryngology

Herman J. Sternstein, M.D.
John E. McKeigue, M.D.
Bernard Zonderman, M.D.
Aram Roopenian, M.D.*
Charles Kent, M.D.
George F. Reed, M.D.
William W. Montgomery, M.D.
Robert E. Klotz, M.D.
Sidney R. Wilker, M.D.
Anthony Zovickian, M.D.*

Assistant Surgeons in Opthalmology

Elizabeth DeBlois, M.D.
Hugo D. Angelini, M.D.
Louis E. Griffey, M.D.
William L. Hayden, M.D.
Thomas R. Klein, M.D.
Robert H. Lofgren, M.D.

Assistants in Otolaryngology

Frank W. Brady, M.D.
Werner D. Chasin, M.D.
Robert W. Clubb, M.D.
Eugene H. Courtiss, M.D.*
Allan G. Edwards, Jr., M.D.
Herbert Fields, M.D.
Richard R. Gacek, M.D.
Floyd B. Goffin, M.D.
Lawrence S. Hirsch, M.D.
Alfred L. Hurst, M.D.
Gezo Jako, M.D.
Roy A. Johnson, M.D.
Donald G. Keamy, M.D.
David L. Pierce, M.D.
Daniel J. Reagan, M.D.
S. Harold Reuter, M.D.
Mendell Robinson, M.D.
Sydney Shore, M.D.
Morris Swartz, M.D.
John C. Trakas, M.D.
Albert Weiser, M.D.
Alfred D. Weiss, M.D.†

Director of Otolaryngological Pathology

Karoly Balogh, Jr., M.D.

Director of Radiology

Alexander S. Macmillan, Jr., M.D.

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*Plastic operations
†Neurology

AFTER forty years of service to the Massachusetts General Hospital, first as Secretary to the Board of Trustees, then as a Trustee and for the last seventeen years as Chairman of the Board, Francis C. Gray decided at the Annual Meeting in February 1964 that the time had come to relinquish the Chairmanship. I am happy to report, however, that this is in no sense a retirement, but merely a case of voluntary re-assignment, and he is continuing to serve both the M.G.H. and the McLean as Trustee and President of the Corporation.

Under Mr. Gray's dedicated leadership, there has been a great expansion of hospital services as well as substantial additions to the physical plant. Most important and enduring of all, however, has been the impact of this man's mind, heart and spirit on those who have had the privilege of being associated with him in the work of the institution.

The Massachusetts General Hospital is well prepared to meet the challenges of the future.

JOHN E. LAWRENCE
Chairman
Board of Trustees

One Hundred and Fifty-first Report of the Trustees

I AM especially happy that in order of sequence it has fallen to me to write this year's report, for it gives me the opportunity to record my deep appreciation of the honor the Trustees conferred on me to serve as their chairman for a span of some seventeen years. The determination of the Trustees to resolve every problem big or small so as to make the Hospital a better place for the care and the cure of the sick has made serving with them an inspiration and a delight. John E. Lawrence became the new chairman of the Board as of February 14, 1964, and with his background of seventeen years as a trustee, and his gift for clear cut leadership takes over with the certain knowledge that the devotion to the Hospital of the Trustees, the Administration and the Staff will never fail.

At the annual dinner meeting of the members of the Corporation on December 3, 1964 it was announced that also last February Mr. Phillips Ketchum became Honorary President and Francis C. Gray, President of the Corporation. On behalf of the Trustees Mr. Ketchum was presented with a silver tray with the affection and gratitude of his colleagues on the Board for his devoted and distinguished service during the years 1928 to 1964, within which period he served part of the time as Treasurer, part as President and all of it as Trustee. The Trustees also recorded their great satisfaction that as an Associate Trustee Mr. Ketchum makes available to the Board his great interest and ability, and their hope that he will continue to do so for many years to come. The resignation of Mr. Elliot L. Richardson, recently elected Lieutenant Governor of the Commonwealth, as a Trustee of the Hospital was accepted with great regret on December 24, 1964. He will be very much missed. At the annual meeting of the Corporation of the Hospital on February 3, 1965 George Putnam was elected a Trustee in Mr. Richardson's place. Mr. Putnam had been an Associate Trustee since 1963.

The Administration and the Staff under the leadership of the General Director, Dr. John H. Knowles, continued to resolve with fortitude and compassion the day to day problems relating to the care of the sick. The year 1964 recorded the highest patient occupancy in the history of the Hospital. Doctors, nurses and employees—called upon for extra effort—rose superbly to the occasion.

The Administration and the Staff completed the plans for the new Surgical and Special Services Building (sometimes referred to as the North Building) and with the unanimous approval of the Trustees, this greatly needed addition to patient care, went on the drawing boards early in 1964. It is expected that construction will start in 1965. Dr. Knowles in his report will no doubt have more to say about this new building, the scope of which has been somewhat enlarged during the year. It is estimated that it will cost $12,000,000 towards which there is on hand about $7,000,000. This is the first time the Board has authorized any such structure without having the funds in hand. However, the Trustees decided that this building was so vitally needed for the better care of the patients that they have gone forward counting upon the Hospital's legion of friends, whose interest and generosity have never faltered in 153 years, to provide the balance not presently available.

Another important matter to which the Administration and a sub-committee of the Trustees gave long study, was the increasingly heavy burden of free care. Never in its long history has the Massachusetts General Hospital closed its doors to one who needed help but had not the funds to pay for it. Today, however, the cost of free care has far outstripped the means to meet it through endowment fund income, gifts and United Fund allotments. Hence the private rates have had to bear far too heavy a share of the cost. The Hospital, joined by a few other hospitals and the Massachusetts Hospital Association, became the leader in an effort to have the Blue Cross contracts include a portion of free care as an item of reimbursable cost thus taking some of the load off the shoulders of the private patients. A satisfactory agreement with Blue Cross was devel-

oped from this effort, to which we are glad to record, the State has given its approval. It is hoped that the State will also accede to the Hospitals' urgent request for more adequate reimbursement for patients on welfare.

Further negotiations with the Shrine of North America, referred to in last year's report, resulted in the signing of agreements relating to the operation of their new Burns Institute when built, and also to a temporary operation in the Massachusetts General Hospital during its construction.

Old traditions in the clinics fell before changing times and a three dollar increase in the clinic charge was a step towards billing at cost. During the year also the long needed refurbishing and re-equipping of the clinics was completed bringing to our out-patients substantial improvements in comfort and convenience.

It is a pleasure to record that the Coffee Shop, planned and operated by the Ladies' Visiting Committee and the Service League, is more than fulfilling the hopes of its sponsors, and is a welcome and attractive addition. The Jessie Harding award for outstanding volunteers service was made on December 1 to Miss Marguerite M. Ryan, volunteer Red Cross nurse's aide for twenty-three years. We salute her and the 747 volunteers who contributed 61,025 hours to the welfare of the hospital and its patients, and offer them our heartfelt thanks. Ether Day was celebrated in the customary fashion, with John E. Lawrence, Chairman of the Board, representing the Trustees, by the awarding of service pins to devoted employees and staff of the Hospital who have given from five to forty years of continuing service. We are grateful to George S. Mumford for the leadership he gave to the December appeal for two new special operating rooms which are to be such an important part of the new Surgical and Special Services Building. We appreciate greatly his efforts and those of the sixty volunteers who gave so freely of their time in this successful undertaking.

Looking again towards the future, the Trustees approved construction of the Radiation Therapy Center, subject to available funds, and to providing greatly needed additional space for research with funds donated over the years for that purpose

if matching funds can be obtained from the federal government.

An affiliation between the Walter E. Fernald State School and the Joseph P. Kennedy, Jr. Memorial Laboratories, as a step towards further development of research in mental retardation, with no financial obligation to the Hospital, was approved. The Trustees authorized the remodelling and equipping of the Winchell School, recently acquired from the City of Boston and its School Committee, for use by the Hospital's School of Nursing.

At the McLean Hospital the first year of the new Rehabilitation Center has surpassed expectations. This unit is making a notable contribution to the community through its enlarged day care and out-patient departments which are increasingly in demand. Under the direction of Dr. Francis deMarneffe and the McLean Committee the operation of the hospital has been eminently successful with occupancy at its highest level.

Fringe benefits for employees were increased during the year. The Pension Plans were revised into one new plan, eliminating the contributory feature, and among other improvements, providing a limited life insurance coverage. Under a new Government ruling an arrangement with the National Life Insurance Company of Vermont has offered employees the opportunity to take advantage of tax-sheltered annuities. Blue Cross for all qualified employees was taken out at Hospital expense.

We are grateful, and always will be, to the members of the Scientific Advisory Committee who interrupt their heavy schedules elsewhere to come here for two days to give the Hospital the benefit of their wise counsel in research matters. To Dr. Wood and Dr. Loeb, whose terms have expired, we extend our sincere thanks and feel we are to be congratulated that Sir Howard W. Florey, Provost, Queen's College, Oxford, England and Dr. Arthur Kornberg, Professor of Biochemistry, Stanford University School of Medicine were able to find the time to fill these vacancies. They with the present members, Dr. H. Stanley Bennett, Dr. Bernard D. Davis, Dr. Martin Deutsch and Dr. Fritz A. Lipmann met here on January 8 and 9, and we look forward to their report with great interest.

Ronald Belsey, M.S., F.R.C.S., surgeon, Frenchay Hospital, Bristol, England gave the first Richardson Lecture on April 13, 1964, Sir McFarlane Burnet of Australia gave the second Lecture on May 21, and Dr. I. Boerama, Professor of Surgery at the University of Amsterdam gave the third on June 26.

Miss Josephine C. Barbour, a member of the Social Service Department for thirty-eight years, and its Director since 1945, retired on December 31, 1964. During the past nineteeen years Miss Barbour gave distinguished leadership to this Department and a dinner in her honor on December 15 was attended by a large number of the hospital family.

Dalton Scholarships were awarded during the year to Dr. Stephen E. Goldfinger and Dr. Hugh H. Kopald both residents in medicine. Dr. Howard K. Schachman was awarded the Warren Triennial Prize for the year 1965. He is Professor of Biochemistry at the University of California and will lecture here in March 1965.

Dr. Oliver Cope's three year term as Chairman of the Research Committee came to an end and Dr. Jerome Gross was elected to succeed him. We extend our appreciation to Dr. Cope for his fine handling of the many interesting problems which came before this committee.

We record with sorrow the death on October 31, 1964 of Dr. Fritz B. Talbot, Honorary Physician. Dr. Talbot was a graduate of the East Medical Service, served as Chief of the Children's Medical Service from 1910 to December 31, 1931 when he resigned, and was appointed to the Board of Consultation.

Dr. Joseph S. Barr died December 6, 1964. Dr. Barr was a graduate of the Orthopedic Service in 1929 at which time he was appointed a member of the staff continuing through the various grades until December 1, 1947. On that date Dr. Barr was appointed Chief of the Orthopedic Service and for the next seventeen years brought great distinction to the Service and to the Hospital.

FRANCIS C. GRAY
HENRY R. GUILD
For the Trustees

Report of the General Director

IT is an honor to submit the Annual Report of the Hospital for the year 1964, my third as General Director.

New Buildings and New Disciplines

Much has been accomplished in the past year and an air of dynamism and optimistic vigor pervades the institution. Although the demands on all our services have reached an all-time high and the entire hospital family has been called upon constantly for demands far beyond ordinary duty, the atmosphere is a positive one and the morale and the spirit of all of us are high. Some idea of the magnitude of our work can be gained from the following figures for 1964. There were 28,607 admissions, 17,061 operations, 53,017 visits to the Emergency Ward and 135,530 visits to the ambulatory clinic. The occupancy of our 1,014 beds averaged 91.16% and there were many days when we were caring for over 1,000 in-patients. The expenses of carrying out our primary function of patient care were $27,672,000. In addition, our budget for research was $8,862,000, making a total budget of $36,534,000. For the sake of comparison this is roughly one-third of the entire annual budget of Harvard University and all its divisions. To carry out this work, we have nearly 6,000 employees and Staff and are thus one of the largest employers in the Greater Boston area, indeed in the entire Commonwealth of Massachusetts.

We have launched into the planning of the new Surgical and Special Services Building with considerable enthusiasm as this Building will represent the first major construction in over 10 years—Bartlett Hall and the Warren Building having been built in 1955 and 1956 respectively. It is crucial that this building be designed properly and provide for certain central and key functions of the hospital, standing as it will in such a central location abutting the White, Baker Memorial and Bulfinch buildings. The building will allow us to gain desperately needed space to house and centralize expanding facilities for the

new era of constructive surgery; to give much enlarged and improved facilities to the clinical, patient care laboratories of the hospital which include Blood Bank, Bacteriology and Clinical Chemistry, as well as a Diagnostic Laboratory which will house such procedures as electroencephalography, electrocardiography, basal metabolism, radioactive scanning and so on; to expand the kitchen, dietary and dining areas of the hospital; to centralize the admitting and discharge procedures for our patients, a function which must be improved, made more efficient and more humane; and finally to allow for future expansion of radiology facilities and other patient care areas. A most important and very striking feature of this new building is the fact that over one-half of the building will be unfinished space. Our initial needs as outlined above will be satisfied and our reasons for those needs have been more than amply justified. However, as we all know, the health wants and needs of our community are in an ever changing state of flux and none of us can predict accurately what the future holds in this regard. Therefore the unfinished space will allow us to rise rapidly to the occasion depending on what the future wants and needs of our community are in terms of the hospital and its primary function of caring for the sick. Having an identifiable area of unfinished space—indeed the top 9 floors of the new building as well as scattered areas amongst the finished areas on the lower floors—will force all of us in the institution to focus on one floor at a time over succeeding years and ensure the best possible, centralized planning. The whole institution can then study and stick to a rational system of priorities. Another vital consideration is the cost saving that can be realized by completing the shell of the entire building now.

We are deep in the planning of the new building at the present time and once again the green grass is being removed from the Macomber Quadrangle behind the Phillips House as well as the lovely Bulfinch lawn. Very soon temporary, rather unattractive structures will be located on these sites. This summer the concrete ball will begin to swing as the old Domestic Building is demolished. This will be a trying period for all of us—most importantly our patients whom the constant noise will disturb.

It seems that institutions frequently have to go backward before they go forward. Once the nightmare of the actual demolition and construction is completed, we will have a building which will serve the community well, of which they (and we) will be justifiably proud.

Research Expansion

We have constantly reiterated the fully committed belief that the first function of any hospital is to take care of the sick and injured of the community and that in order to do this and give the best quality of care, this must be carried out in an environment of teaching and research. In such an environment of constant inquiry, high intellectual activity, repeated questioning of the conventional wisdom, constant scrutiny of established procedure, and the rigorous application of the scientific method, the quality of patient care has its best chance of being optimal.

Once the prime needs of the hospital and its community were settled in terms of its first function of the best possible care of the sick, we have then turned to needs of the hospital for its research and teaching program. It is absolutely essential to the balanced function of the hospital that all its various functions expand in an orderly fashion to maintain the desirable balance which I reported in 1961, covering a detailed study over a 10 year period of the growth of the hospital. Over the past several years we have scrutinized in depth the entire research program of the hospital, both as it relates to balanced growth within its own confines as well as to how it relates to the growth of the rest of the hospital and its other associated teaching hospitals. The results of continued scrutiny and many hours of hard work by the Committee on Research culminated in the certainty of need for expansion of research space. An application for matching funds to the Federal Government under the Health Research Facilities program has been filed and if approved, will provide for expansion of roughly 50,000 sq. ft. of research space which will occupy 8 new floors rising as an extension of the East Wing of the Surgical and Special Services Building directly behind the Bulfinch Building.

Several very important and vital new disciplines have been

added to the life of the hospital over the past year including a new Preventive Medicine Unit, headed by Dr. Victor W. Sidel, and a Laboratory of Computer Sciences. Dr. G. Octo Barnett is the new head of this laboratory which will be working very closely with the National Institutes of Health on the hospital based project to evaluate the feasibility of computer use in the total hospital operation. We are indeed fortunate to have Dr. Barnett who is both a biomathematician, as well as a physician to direct this endeavor. Our contract with the National Institutes of Health to conduct the "feasibility" study amounts to over $1,000,000 annually.

With Dr. Sidel's coming the M.G.H. will have strong representation in the field of preventive medicine. Hopefully, over time preventive medicine practices will become a much larger and more significant part of the traditional acute, curative function of the hospital. Dr. Sidel, in addition to his own research problems, will provide consultation and collaboration for clinical and research problems in biostatistics, epidemiology, community and occupational health, reporting and surveillance of disease, immunization practices and other techniques of preventive medicine. He will be active in clinical teaching of preventive medicine. In addition he will be closely associated with the Computer Project and will be exploring clinical and epidemiological problems with this tool. Some of the outstanding socio-economic problems of hospitals and medical care will be explored.

The Annual Report of the Committee on Research summarizes very nicely the other changes including the awarding to Dr. Paul S. Russell and the Department of Surgery a Transplantation Center Grant, the recruitment of Dr. D. Michael Young as Physical Chemist at the M.G.H. and the addition of several new distinguished members to the Trustees' Scientific Advisory Committee including Lord Florey and Dr. Arthur Kornberg, both Nobel Laureates.

In our continuing efforts to improve the organizational structure of the hospital the Trustees have agreed to the automatic appointment of the Chairman of the Research Committee to full membership on the General Executive Committee. Already

the direct communication which thus occurs between practicing staff, full-time staff and research staff has improved the morale and allowed for much closer working relationships amongst all areas of the hospital. It was for this very same reason that the Trustees agreed that the Director of the Nursing School and Service should be appointed a full member of the General Executive Committee two years ago recognizing that she, too, represented one of the largest professional groups in the hospital. For the best working arrangements this mechanism for direct communication and close work with one's colleagues is absolutely essential and this can be achieved on our major medical policy board of the hospital, the General Executive Committee, which is advisory to the General Director and through him to the Board of Trustees.

We are still not totally balanced within our research effort and we have recognized the need for a more concerted effort in the areas of radiobiology and genetics. To this end we have been exploring the initiation of a new unit to be housed in pediatrics in clinical and research genetics. We are also reviewing our present efforts in the field of Cancer. With the initiation of the Computer Laboratory and a Preventive Medicine Unit we are in an admirable position to make meaningful studies of the function of the hospital. Doctor Sidel, Doctor Barnett and some of us in the Administration are currently engaged in such studies and we shall have more to report at a later date.

We are also concerned at the moment with the report of the President's Commission on Heart Disease, Cancer and Stroke and have formed a small committee to develop hospital policy in this regard.

We have also kept ourselves current on the changing form of the King-Anderson Bill, more popularly known as Medicare, and have already started to plan in anticipation of this form of Federal participation in the financing of health services. The changes that will be brought about by these two forms of legislation have many crucial implications for the future of this hospital, as well as all hospitals in this country and we shall have more to report at a later date.

Financial Issues

I hesitate to spend any more time in the current or future annual reports about the financing of the hospital, an issue of absolute first order of importance, but nonetheless somewhat tiresome if the story is repeated too often. I do think that if for no other reason than historical interest we should discuss briefly the cost for one patient for one day at the M.G.H. and for this purpose we will use the figures for fiscal year 1964. It will be particularly interesting to review these costs in 1974 and I should like to predict right now that the total daily cost will then be around $75 per day in that year.

An analysis of the cost per diem of a patient at the M.G.H. should be rewarding. Perhaps we can then answer two questions: 1) who should be paying for certain costs in teaching hospitals and 2) are all the costs justified in teaching hospitals. The per diem cost at the M.G.H. in 1964 was $50. A glance at Table I will show "routine" (room and board, nursing service, medical records and supplies, etc.) costs of $31.00 and ancillary (x-ray, anesthesia, chemistry laboratory and so on) costs of $19.00 per day. Bearing in mind that 11.6¢ on the dollar of cost represents the hotel function, the M.G.H. hotel cost on this per diem rate is roughly $6.00, a fairly good room rate to say the least!

TABLE I

1964 Massachusetts General Hospital
In-Patient Cost

Room and Board		$31.00
Ancillary		19.00
Operating Room	$ 5.50	
Anesthesia	2.50	
Radiology	2.75	
Laboratories	5.25	
Electrocardiogram	.30	
Physical Therapy	.40	
Medical Supplies	1.40	
Drugs	.90	
	$19.00	
		$50.00

Bear in mind the word "cost" represents the raw or actual cost of taking care of the average patient for one day. Our average *charge* per day is roughly $10 greater because of losses due to Free Service, Public Agency (Welfare) reimbursement (in 1964 we were allowed a maximum of $40.79 per day for Welfare patients, nearly $10 below our costs), Blue Cross contractual losses (Comprehensive Contract holders pay costs and did not share our net unreimbursed free care*), bad debts and employee allowances in the proportions shown in Table II.

TABLE II

LOSSES NECESSITATING CHARGES GREATER THAN ACTUAL COSTS

Free Service	$ 3.60
Welfare Losses	3.20
Blue Cross Contractual Loss	2.00
Employee Allowance and W.C.A.	1.00
Bad Debts	.20
	$10.00

Turning to Table III, certain elements of the total cost have been stripped away from the routine and ancillary areas where they reside, to give a new per diem cost of $40.66. These elements have been chosen because they are the most controversial in the minds of the public and some segments of the profession alike. Who should, or better, *might* pay these costs?

TABLE III

MASSACHUSETTS GENERAL HOSPITAL IN-PATIENT COSTS PER DAY REMOVAL OF CONTROVERSIAL ITEMS†

Room and Board		$31.00
Nursing School	$2.26	
Residents' Maintenance and Salaries	2.48	
Depreciation	.45	
		25.81

(Continued on page 57)

*The new Blue Cross - Hospital contract provides partially for this but its legality is being challenged at this moment.

†Professors and Chiefs of Service salaries are included in the routine expense, partly in Residents' expense and also in the salaries of Anesthesiologists, Radiologists and Pathologists. The M.G.H. paid salaries of $1,366,148 and Harvard gave $374,350. In addition through research grants from all outside sources, the M.G.H. paid $1,877,075 (not a patient expense) and Harvard paid $678,198.

(Continued from page 56)

Ancillary		19.00
Anesthesiology Salaries	1.38	
Radiology Salaries	1.61	
Pathology Salaries	.36	
Residents in O.R.	.17	
Other Laboratories (M.D. Salaries)	.63	
		14.85
TOTAL NEW PER DIEM (without above items)		$40.66
Nursing Service	11.10	
Drugs	1.21	
Lab. Technicians	4.55	
Food	4.85	
Operating Rooms	5.50	
Radiotherapy (other than M.D.s)	1.29	
Anesthesia (other than M.D.s)	1.09	
Miscellaneous (EKG, physical therapy, social service, medical records, etc.)	5.07	

Leaving Hotel Cost approximately $6.00/day

Nursing School

All would agree that the patient should pay for that element of service he receives from the student nurse, but not all would agree that he should pay for the time spent in education. The problem may be solved by time, what with the expansion and increasing popularity of collegiate nursing programs and the accelerating decline of the hospital "diploma" schools. Time alone is not the answer, however, for our hospital schools still supply 2/3 of all the nurses in the United States and at least until the need is met, many collegiate graduates will become faculty members, visiting nurses, nursing administrators. Therefore hospital schools must continue. Who will pay for them? The only alternative to support by the hospital's only earning asset—the patient—is State and Federal support through Departments of Education. There are certain objections to this, and I just smile at the suggestion that "You should get this money from the State Department of Educaion" or "You should go to Washington and get the HEW to pay this cost." I am ready, willing and able to crusade but the present methods of financing must prevail until a new and better method is ready to function. Failing both these sources of support, the Universities will have to assume the full responsibility. They prob-

ably will in time, but by evolution and *not* revolution. It is probable that equitable sharing of the fixed responsibility will develop as it has between University and teaching hospital in the area of medical students and house officers. The university supports the medical student and the teaching hospital supports the graduate doctor in training. Similarly the university will support the student and the hospital (ie., its patients) the new graduate nurse. The recently enacted Federal legislation for nursing schools should help considerably by giving money for construction of new facilities and for some scholarships. For the time being the hospital's patients will continue to pay for the nursing school.

House Staff

The cost of the interns and residents is now allowed as a reimbursable expense by all paying agencies. Paradoxically, here again the State's Welfare Department has challenged this too, asking why they should pay for doctors in training. They argue that we must have Welfare patients and that our house staff keep the patients for their own educational needs, citing longer stays and higher utilization of ancillary services such as laboratory tests and radiological procedures. The State of Massachusetts, in implementing the Kerr-Mills bill, has ruled that no professional fees will be paid to local doctors if the Welfare patient lives within 15 miles of a teaching hospital. Even the medical society in challenging the legality of the 15 mile limitation stated at a Hearing on Welfare Practices in April 1964, "the patient's stay in the teaching hospital is likely to be more prolonged than in the local hospital."

These attitudes are particularly annoying. The Welfare patient and the medically indigent in general are older and sicker than our private patient population of younger wage-earners. They are frequently referred to us from the local hospital. It is largely the aged population that cannot pay their medical bills who occupy our service beds. They stay longer for both medical *and* social reasons. Multiple system disease and poor or inadequate after-caring facilities result in higher utilizaton of ancillary facilities and longer stays respectively. The problem

will be complicated enormously with the implementation of the King-Anderson Bill. I speak from personal experience as a visiting physician who continues to teach medicine when I say that the house staff make the error of discharging these patients too soon rather than too late. As soon as the diagnosis is made and management instituted, they want another new, *acute* challenge. Finally, we have always existed for the community's needs and not vice versa. The patients need us for their purposes and we would not have it otherwise.

Part but not all of the higher ancillary utilization can be explained by the patient's age and medical condition. It is here however that unbridled enthusiasm for tests and total belief in medical technology have led us astray and leave us highly vulnerable to the outside paying agents. Medical faculties have not taught by rewarding restraint and thoughtfulness in the use of tests but usually have condemned the house officer when he missed one determination. How often have we as teachers been given the values for BUN, CO_2, Na, Cl and K when a specific gravity of the urine was not done or glossed over? Is it not possible that medicine can be taught by explaining why certain tests are not needed rather than resigning ourselves to a trial and error method on the part of the house staff? In some teaching hospitals today, $80 of tests are done on anyone and everyone with abdominal pain and vomiting. Responsibility and attention to medical costs is needed in such instances and the public has a right to demand it.

Certainly the cost of House Staff must be borne by the hospital's patients. Salaries are still far too low for this group, who could after all be licensed in most states and charge their own fees. The average cost of $2 over a 24 hour period (actually $2.48 for in-patients) provides for the most careful medical examination in the world today and for continuous care come what may. It is entirely justified and allows the hospital to give the highest quality of care obtainable. The A.M.A. agrees with this but they and the Blue Shield do *not* want to pay for it; nor do most of the other third party payers! It is a logical and easily defended hospital cost. It will continue to rise until after medical house staff are paid decent, living wages.

Professors' (Full-Time) Salaries

Here again and for similar reasons the cost of the service element of our full-time clinical chiefs can be justified as a hospital expense. The medical school should generally pay that part of the total salary which relates to the individual's university function of teaching and research. The hospital's part of the salary is given for the service function of patient care and the necessary supervisory responsibility surrounding it. Obviously there is no formula here for on a given day with a given patient the pofessor may be simultaneously or sequentially involved in research, teaching and patient care. Research generally is paid for by research funds and its financing is kept entirely separate in our budget. During 1964 the M.G.H. paid salaries of $1,366,148*, exclusive of house staff, and the Harvard Medical School paid these same individuals roughly $374,350. I see no reason why the M.G.H.'s part shouldn't be paid by the hospital's patients.

Depreciation

Some have argued that the segment of the population unfortunate enough to be sick and hospitalized should not have to pay what in our hospital amounts to 45¢ a day so that tomorrow's patient can have an adequately maintained plant and facilities. I have heard various individuals say that the Federal government should do this. Happily for many hospitals, the Hill-Burton Act may provide now for the renovation and alteration of urban hospitals. Unfortunately the cost of depreciation has never been included in the charge structure of many hospitals while others have been unable to earn it, often covering their cash deficits by utilizing the money so allocated. More often than not it has been used to cover deficits produced by unreimbursed free care. There are no truly viable businesses run this way in this era of business practice; and it is incredible that successful businessmen who are often hospital trustees have not championed the cause of earning and spending depre-

*In addition the M.G.H. paid doctors' salaries of $1,877,075. Research Fellows were paid $944,954 through Research Grants mainly from the N.I.H. Harvard paid an additional $678,198 to our Staff doctors through Research Grants.

ciation in all hospitals. Many hospitals, particularly large urban complexes can now survive *only* if Federal money is made available to renovate their plants. Again, however, one could argue that the *entire* community and not just the hospitalized segment should maintain their hospitals through one of two mechanisms: private philanthropy (which has not been able to maintain the pace) or through the tax dollar. For the present, those hospitals which can do so must continue to include depreciation in their charges and when the depreciation isn't earned, must seek private gifts or Hill-Burton allocations to maintain spending on a logical long-range schedule. I believe that the patient should pay for depreciation because it is in his care that the plant and equipment suffer its depreciation through constant usage.

Salaries for Anesthetists and Radiologists

Radiologists in particular (and the A.M.A. in general) have been opposed to salaried arrangement between doctor and hospital. If we in our hospital were to remove the salaries of radiologists, anesthesiologists and pathologists, we could reduce our ancillary rate by $4.15, but I believe that these departments are vital services and should be well organized on a basis which is not subject to the ability of the patient to pay.

From the standpoint of the Hospital Director the removal of all these controversial elements from the hospital's cost of caring for the sick might make life much easier. Just imagine how much easier it would be to explain a cost of $40.66 instead of a charge of $60.00. Further if we removed the cost of nursing service, we could reduce our daily cost to $29.56. As shown in Table III, we arrive finally at a hotel cost of $6.00 per day. We could then compare this rate to a one-night stay in a hotel. The comparison would be very favorable for hospitals. We would be relieved of rationalizing the cost and need for student nurses, house staff, teaching in general, depreciation, radiologists, anesthetists and pathologists and even graduate nurses. We would confine ourselves to the simple task of comparing our cost with the local hotel which the public can understand easily for it is the only comparison they are able to make ration-

ally at the present time. Personally, I am delighted that the public wants to hear and that we are in a position to tell them why costs are high and what exactly they are getting for their money. The gain for medicine and hospitals in an enlightened public is incalculable.

Conclusion

I believe it was Francis Bacon who said "The forward retention of custom is as turbulent a thing as change." Certainly one cannot deny that there is a tremendous amount of turbulence at the M.G.H. both as a result of change as well as a certain healthy resistance to change. And although we speak of balance, we know very well that we shall never achieve it and that we live and stay young in a state of dynamic disequilibrium. This is as it should be. It bespeaks the viable, healthy, continually developing institution. The stability and strength of this hospital are wondrous elements in themselves and it is the job of all of us who work here to maintain this stability, strength and spirit. On the one hand we have successfully planned for change by the building of new buildings and the expansion of existing disciplines, as well as the introduction of new disciplines all of which I have described above. At the same time two of the most crucial issues for the future of the hospital have not been solved and change has been resisted with equal vigor. These are 1) the necessity of extending the complete teaching function with the attendant benefits to all patients of the hospital regardless of their socio-economic status or the particular specialty under which they fall and 2) the absolute necessity to expand and improve the functional arrangements that have become frozen in the whole area of ambulatory services. I shall have more to say about these areas in my next Annual Report.

I never tire of saying that all of us—trustees, staff, administration—doctor, nurse, maintenance man—surgeon, pediatrician, research worker—no matter what the interest or what the discipline, all of us are proud of this institution and deeply grateful for the privilege of being a part of it. As an individual acquires certain virtues as he grows, so too does an institution

and the sum total of its virtues reflect the virtues of its individuals. Hope, will, skill, purpose, fidelity, caring, love and finally integrity are acquired as repeated crises are resolved satisfactorily in the individual as well as the institution's life. The hospital and all its indivduals have risen to these various crises and have never failed to resolve them satisfactorily. As a result the hospital continually gains strength and has increasing capacity to carry out optimally its prime function of caring for the sick . . . and *caring* stands above all.

JOHN H. KNOWLES, M.D.
General Director

Report of the General Executive Committee

THE maintenance of the best possible medical care by a highly competent and enthusiastic staff combined with an educational program for the new generation of physicians, medical students, and many other professions is a continual challenge to the General Executive Committee. Each decision has to be pondered in the awareness that this hospital must also maintain and develop its leadership role in medical research both at the level of clinical investigation and of basic biological and social science. Since at the Massachusetts General Hospital a great deal of autonomy is given to the Chiefs of Service to develop their own programs of service, research and education, it is one of the tasks of the General Executive Committee to provide integration and balance to a most diversified set of enterprises.

The year just passed provided a variety of challenges to the ingenuity of the committee because of the rapid changes taking place in the role of the hospital in the community as well as in the hospital's internal organization.

Rapid expansion of research activities and the increase in complexity of diagnostic and therapeutic procedures has been accompanied by an ever increasing influx of staff. The committee processed and evaluated all recommendations for appointments made by the Chiefs of Service. Not only must their qualifications be scrutinized, title and position must be checked and innovations as to function and role must be considered. Residents and Fellows from foreign countries must be assisted in their training but recurrent problems arise with respect to licenses, visa expirations and planning for an ultimate career in their home country.

Each segment of the hospital structure has its own growth potential and its own pattern of internal differentiation. The relationship between the nonclinical investigators and those primarily involved in patient care required careful review in-

cluding some experimentation with new patterns of organization. Towards the end of the year of 1963 the Trustees had decided that the Research Committee until then responsible to the Board of Trustees should function as a Standing Committee of the General Executive Committee which appointed its membership and executive committee. After much discussion and joint meetings this arrangement was revised to allow for maximum involvement and participation of the basic sciences. The arrangement is now as follows: the out-going Chairman of the Committee on Research in consultation with the General Director will recommend the new chairman of the Committee on Research to be voted upon by the full Committee on Research and then recommended to the full Board of Trustees. The new chairman in consultation with the General Director will draw up a list of candidates from the membership of the Committee on Research for the Executive Committee on Research. Those candidates are voted upon by the full Committee on Research and recommended to the full Board of Trustees. The Chairman of the Research Committee automatically becomes a member of the General Executive Committee unless he already is a member and in that case the full Committee on Research elects a member from their group to serve on the General Executive Committee.

This arrangement has facilitated communication between the patient care and research sectors of the hospital program and has shown its value in the detailed discussion by both bodies of the plans for the new building for surgical and related services. The well established axiom that the laboratory investigations in this hospital should be intimately related to the emergence and solution of clinical problems led to the plan now sanctioned by the Trustees for the construction of a substantial research facility in this new building in close proximity to clinical services. This will also afford the young clinician the opportunity for participation in an on-going program of biological inquiry conducted by basic scientists.

Close collaboration between the General Executive Committee and the Research Committee is also required in determining gaps in the overall program and in the creation of those

facilities which serve both clinical and investigative units. An important appointment in this direction was that of Dr. D. Michael Young to a senior post in biochemistry. The rapidly developing use of the computer and monitoring devices both for more effective data processing in research and for more efficient record keeping and clinical care required leadership by a person with a wide horizon both in the field of biophysics and engineering and in appproaches to clinical problems. After careful consideration Dr. G. Octo Barnett was enthusiastically appointed to this post.

The need to apply preventive considerations to many conditions now reaching the hospital led to the development of a new program in the Department of Medicine under the leadership of Dr. Victor Sidel. He will undertake studies of the composition of the patient population, its ethnic and cultural background as well as the various phases of the patient's career as he moves through the hospital to recovery or aftercare.

During the course of this year the Committee was increasingly impressed with the changing role of our hospital in the community. The General Director gave frequent reports about his efforts to present to the community agencies and political bodies the financial necessities of a hospital which combines patient care, education of the new professional generation in medicine and nursing and clinical investigations. While the federal government has assumed responsibility for much investigative work the burden of educational expenses must still be carried by the hospital and its patients. The outcome of protracted negotiations carried on by the General Director with the Blue Cross and government welfare agencies with regard to reimbursement for patient care will be of great significance for the future of this hospital as a teaching center. A potential reduction in the number of general hospital patients has necessitated increasing thought concerning the private patients for teaching purposes. The necessary changes in the functioning of the ward team and in the responsibilities of the resident physicians were the object of much discussion.

A subcommittee headed by Dr. Russell made real progress in clarifying the different patterns of teaching which can evolve

with private patients. First, the teaching can proceed in the private segment of the hospital; second, private patients may be located in semi-private accommodations but tended by general service teams; and, third, private patients who arrive at the hospital without an assigned physician may be assembled in new experimental units specially designed for collaborative teaching and care by different services. Much experience will have to be accumulated to arrive at solid knowledge concerning these patterns of advanced medical education.

The collaborative methods required in order to integrate the several specialties demanded much attention from the Committee. A detailed report was heard from the Chief of the Medical Clinic, Dr. Stoeckle. Greater integration of the staff of the several services in the Clinics both for the teaching of medical students and house officers must be achieved and articulation between the clinical services and other care-taking agencies in the community has to be developed. A special committee was appointed to do a careful study of new patterns of organizations for the ambulatory services in line with Dr. Knowles' presentation to the general medical profession in an address before the New York Academy of Medicine.

Another field requiring interdisciplinary cooperation involving Orthopedic, Medical, Neurological and Psychiatric services is that of rehabilitation. The Committee considered with the Chief of the Rehabilitation Service, Dr. Robert H. Jones, the possible relocation of this Service to more suitable quarters. There was also discussion of possible expansion of the "educative phase" of medical care of those handicapped by the sequelae of accident or chronic disease on the grounds of the McLean Hospital where the rehabilitation and re-education of emotionally disturbed persons has reached a high level of effectiveness.

Collaboration between different services also has a long tradition in the Emergency Ward. In July, Dr. Wilkins was temporarily replaced by Dr. Head who reviewed with the Committee the rapidly changing and expanding operations of this Service. There is a steady growth in the number of patients seeking advice and help. Many of them used to go to

physicians' offices in the community; but appointment systems and waiting periods have become so common that the patient who needs instant care will turn to the hospital. The tremendous demand for diagnostic X-ray studies has been met by the erection of a new facility near the Emergency Ward. Effective triage and proper care of those patients who need attention in social and emotional crises must be developed and more space must be found to allow for initial interviews with patients and relatives.

The Emergency Ward is increasingly oriented toward prevention through concern with hazardous situations and precipitants of sickness. These efforts have been enhanced by the growing concern with problems of aftercare made more urgent by the ever shorter period of acute services within the hospital. The role of the social worker in helping patients and their families deal with the stress of hospitalization has attained special importance.

Miss Barbour, shortly before her retirement at the end of the year, presented to the Committee an overview of social work operations both for the underprivileged and in the private wing of the hospital. The social workers' contact with many social agencies in the field of welfare and health services is invaluable at the time of patient discharge. Many patients still require some form of care either in the home by a Homemaker Service or in special facilities such as nursing homes or at the very minimum they require financial support during their period of invalidism.

Among the community agencies, nursing homes are acquiring greater significance with the shortening of hospital stay and with the increasing age of the patient population. This problem will become more challenging with the development of government programs for the care of the elderly. The medical ward team is visiting certain nursing homes for follow-up and teaching purposes. Dr. Knowles was recently appointed for a six-year term on the Massachusetts Public Health Council, responsible for developing and maintaining standards for these facilities.

Since last year, the Director of the School of Nursing

and the Nursing Service, Miss Sleeper, participated regularly in the Committee's deliberations and from time to time has reported about changes in the nursing profession. The Nursing Service has been able to maintain a high level of loyalty among the staff nurses while accommodating itself to a profound change in educational planning for nursing students. The Massachusetts General Hospital Nursing Department has now almost five hundred students from all levels of nursing for their educational experiences in basic or advanced nursing.

The General Executive Committee, while witnessing and trying to modify and steer some of these changes, is also responsible for safeguarding the patients and personnel from hazards inherent in the complexities of modern medical care. New drugs are carefully scrutinized by the Pharmacy Committee and allowed for general use after due consideration by the General Executive Committee. Long established procedures such as the use of tannic acid in diagnosis in the X-ray Department may be called into question by government agencies and have to be re-evaluated. The care and completeness of patients' records, adequate reporting to the referring physicians and provision of such mundane facilities as proper parking space adjacent to the hospital are examples of the kind of issues which are called to its attention.

A more challenging hazard is the inevitable tension which arises among services in the interplay of forces in the hospital in the face of the rapid changes on the social scene. The accustomed balance of number of patients in categories such as neurological versus surgical versus psychiatric may rather suddenly change in the face of innovations of diagnostic procedures such as advances in heart surgery or a new method for the location of brain tumors. When this becomes known, an influx of patients seeking this new form of help crowds facilities, complaints arise from the auxiliary departments and the General Executive Committee has to clarify the crisis and find an equitable solution. Again, the professional role of a whole specialty may undergo rapid change. Modern Pediatrics is now in the process of adding subspecialties such as Pediatric Surgery, Pediatric Neurology and Pediatric Psychology. The in-

tegration of the generalist function with its particular training program with the operation of the new specialists whose berth may be primarily in their own adult divisions demands much reorganization and accommodation between various groups. A special subcommittee worked hard to achieve a prospect for healthy growth of this new complex of specialties in child development.

Finally, the General Executive Committee has to keep an overview of the complex network of relationships which the Massachusetts General Hospital is developing with other hospitals and agencies in the community. Affiliation for the special purpose of training programs needs periodic appraisal. Collaborative efforts in research between an MGH Department and that of another hospital create intricate problems of staff identification and the place and ownership of equipment. In the course of the year the impression began to emerge that the future may well necessitate much more of a division of labor and sharing of facilities among hospitals in this metropolitan area. Affiliations and collaboration for training and research development may also be arranged with institutions in different countries. The committee reviewed and approved in principal a possible plan for mutual exchange of scientists between the laboratories of this hospital and those of the All-India Institute of Medical Sciences in New Delhi presented by Dr. Castleman with support of the Rockefeller Foundation.

Beyond the scope of such collaborative programs in specific institutions there remains the continuous responsibility to further postgraduate medical education for the general community. In addition to a number of endowed lectureships and organized postgraduate courses the Committee has been concerned with the development of community education via the mass media especially television. There are also more and more opportunities for effective teaching by "closed circuit television." A subcommittee was hard at work under the leadership of Dr. Soutter who left to become the Dean of the new Medical School of the University of Massachusetts. Further investigation is being conducted by Dr. Ballantine.

In summary, the General Executive Committee dealt with a

great variety of tasks striving for a high level of communication among all the services and maximum support for the Administration. In doing so, it did not forget to scrutinize its own composition and size. The work was much strengthened by representation of the Chairman of the Research Committee and the Chief of the Nursing Service. From time to time the request was duly considered to add other Chiefs of Service but this was not thought to be compatible with effective functioning. The general meetings of Chiefs of Service, at which Dr. Knowles reports once monthly about the work of the Administration and the General Executive Committee, the presence of the Chairman of the General Executive Committee at the meetings of the Hospital Committee of the Board of Trustees and the liaison with the Associates by two Members-at-large of the General Executive Committee seemed to provide effective channels of communication. The details of this organizational structure, more complex than that of many other hospitals, has proven sound in the light of the particular needs of the Massachusetts General Hospital at this time.

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Report of the Surgical Services

THE vigor of surgical activities within the hospital has once again been reconfirmed. The volume of patient care, as reflected in the total number of surgical operations performed, once again reached a new high in 1964. In this year, a total of 17,061 operations were done as against 13,850 only five years ago.

This increased activity, combined with a recognition of the increasing complexity of surgical work and the promise of important new progress ahead, has convinced our surgeons all the more that expansion and modernization of our operating facilities in the new Surgical and Special Services building will be a timely response to an assortment of urgent problems.

Under the able chairmanship of Dr. Claude E. Welch, assisted by Vice-Chairman Dr. F. Thomas Gephart, our Operating Room Planning Committee has reached the final stages in its intricate assignment of planning the Hospital's new operating rooms. This suite will become the largest single operating room area in the world, to our knowledge, and will be fully equipped for the most complicated new surgical operations now foreseeable. In this work special attention has been paid to the question of isolation of the operating room suite as part of a careful program to lower even further the incidence of cross-infection in association with operations. Communications within the operating suite, and efficiency of action of the many types of personnel involved, will be far better than in our existing quarters and should greatly promote the overall objectives of making modern surgery safer, smoother, and perhaps even less expensive than it would otherwise have been. Unification of our operating facilities will also be a tremendous help to teaching at all levels.

The institution of the new curriculum in the clinical years of the Harvard Medical School began this year. Among the welcome features involved in this new curriculum is the necessity for much more collaboration among various hospital services, particularly in the phase entitled "Introduction to the

Clinic." An increase in involvement of staff members who hold clinical appointments in the Harvard Medical School, and a new opportunity for students to be introduced to the various surgical specialties, are likewise positive features of the new plan.

The past year has also seen a resurgence of the traditional principle at the MGH of interservice clinical investigation. Particularly in the area of cardiovascular surgery and in transplantation, rapidly growing programs have emerged which involve investigation extending across the whole spectrum from the laboratory to the patient. These efforts exemplify the particular strength of the MGH and are central to its prime mission of leadership in advancing clinical medicine. The number of open-heart procedures rose to 159 last year, with another 44 cases in which the open-heart machine was held in readiness but not required. The cardiovascular physiology research laboratories, under the direction of Dr. W. G. Austen, were modernized and specially fitted out with a thorough remodelling of the space provided. With the imminent completion of the adjacent cardio-pulmonary laboratories, now being constructed, our staff should have an unequalled opportunity to forge new progress in these important fields. The stage has been set and a splendid staff is assembled.

The multi-disciplinary transplantation team will also soon be provided with specially designed patient care facilities on White 12, which will include a new hemodialysis unit under the supervision of Dr. George Baker of the Medical Service. Our emphasis has been upon careful selection of the donor individual using histocompatibility tests which we are developing in our own laboratories. Quite satisfactory progress is also being made in this complicated field, and one of our early recipients of an allogeneic kidney will soon complete his second year of excellent health since transplantation was performed. The MGH has now been designated as a "Transplantation Immunology Center" by the United States Public Health Service which aids the project with funds.

The interim activity of the Shriners' Burns Institute has been another area in which inter-service collaboration has proceeded

very satisfactorily and is expected to have a rich future. During the planning phase for the new Shriners' Hospital across Blossom Street from our Research Building, some burned children have been cared for on the Children's Service of the MGH in order to focus attention on the problems of burns and to gather an appropriately interested group of staff members who will be able to extend their activities into the nearby Shrine Institute when it is completed in a year or so. As the first Chief of Staff of the Boston Unit, Dr. Oliver Cope has been in charge of the planning activities for the new building. An attractive and well planned structure should soon be rising and will serve a critically needed role in the surgical future of the MGH. The management of trauma is a principal interest of surgeons and we are well equipped in our staff to expand our work in this area. The added space for surgical and other research will be particularly welcome and should allow new strength to a development which will be helpful to the whole hospital.

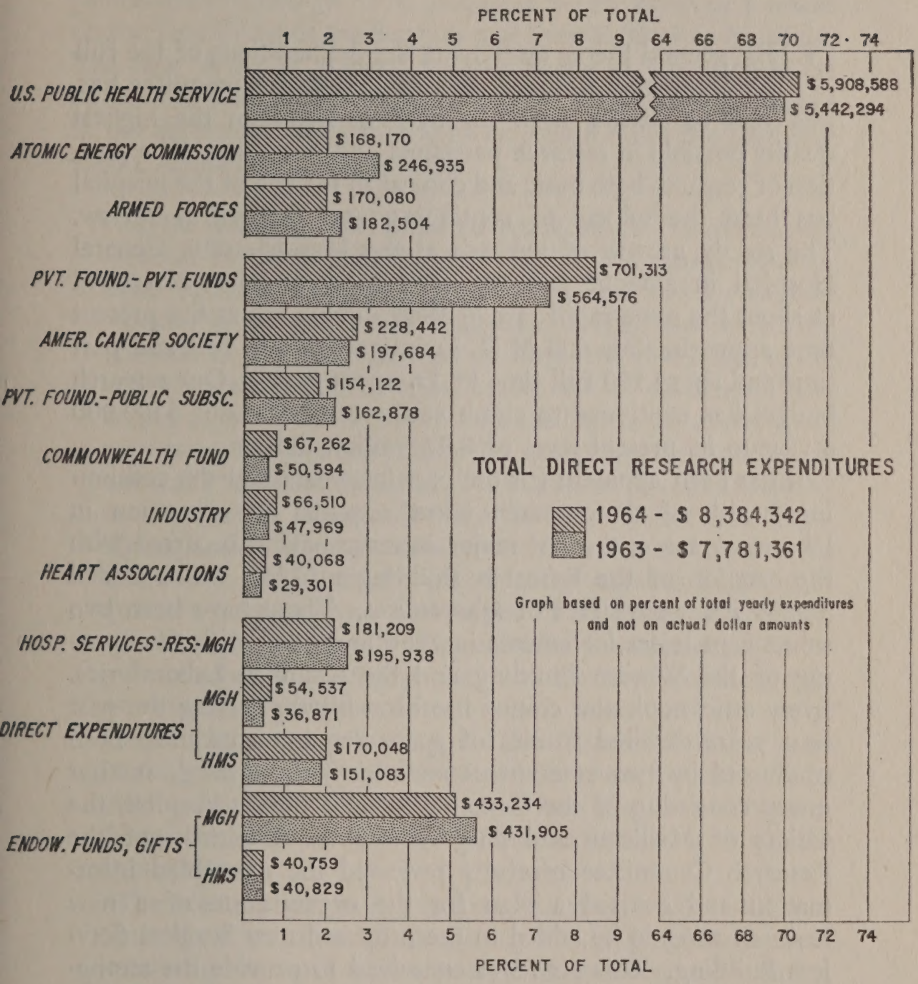
The ward services have continued at a gratifying level of activity both in volume and quality. Nevertheless the need for looking ahead toward new ways of bolstering the crucial teaching activities of the hospital is recognized. The likelihood that private patients will be increasingly involved in the teaching process is great, and ways of moving toward this in an orderly fashion are now being considered.

Dr. Charles F. McKhann joined the surgical staff as Assistant in Surgery. He will devote himself particularly to the study of malignant disease for which his background makes him especially suited. His laboratory will be located in the John Collins Warren Laboratories, and his dual responsibilties in the Tumor Clinic, as well as in the Huntington Laboratories, will reaffirm the strong collaboration between these areas which is vital to the hospital and which is expected to grow rapidly in future years.

Altogether it has been a good year!

PAUL S. RUSSELL, M.D.
Chief of Surgical Services

Direct Research Expenditures For 1964



Report of the Committee on Research

THE general theme underlying the deliberations of the full Committee on Research and its Executive Committee has, this year as always, been the need to maintain the highest quality possible in research personnel and programs. The position of research both basic and clinical in the life of the hospital has been the subject of continuing and thoughtful review. The steady growth of research at the Massachusetts General Hospital in amount and we hope in quality has continued at about the same rapid rate in 1964. There are at the present time approximately 400 M.D. investigators both full and part time and about 120 full time Ph.D. investigators. Our research budget has continued to climb at the rate of about $500,000 a year to its present level of 8.97 million dollars.

It has been apparent for the past five years that the continuing health of the research effort requires an expansion in laboratory space, the last major increase having occurred with the erection of the Research Building in 1951 which added 31,204 net square feet of laboratories. There have been two subsequent lesser increments in 1956 and 1962 with the opening of the Warren Building and the Kennedy Laboratories. Every attic, nook and cranny has been filled. During the past four years detailed studies of space requirements have been conducted by two committees and this year a third, smaller group consisting of the General Director of the hospital, the Chiefs of Medicine and Surgery and the Chairman of the Research Committee carefully reviewed the assembled information and devised a plan for the organization of a new research wing to be added to the proposed new Surgical Services Building. This plan was conceived to provide the strongest possible application for matching funds from the Public Health Service, a significant improvement in quarters for 9 established and productive research units coming largely from the old Research Building and the White and Bulfinch Buildings, and simultaneously to make available a large block of laboratory space in the released areas to be renovated and

eventually occupied by other departments requiring more space for present and future activities. This plan will provide approximately 50,000 ft^2 to be housed in 9 new floors of a tower on the East Wing of the Surgical and Special Services Building. The new Wing is planned for occupancy in the summer of 1967. The philosophy embodied in the proposal was presented in the following two paragraphs excerpted from the Building Grant Application to the NIH.

"At the present time, research space at the Massachusetts General Hospital is badly overcrowded. A steady increase in the number of people engaged in research and the parallel increase in the amount of equipment needed has forced the hospital to use space in the corridors and under the eaves, and the result has been considerable loss of efficiency. The major purpose of the proposed facility is to allow some expansion for the scientists who are presently working in unusually crowded quarters. This can be accomplished by moving certain laboratories into the new facility and allowing expansion of other units in the older research space. In addition it was deemed wise to bring together in the new quarters groups which have types of activities in common which might be broadly designated as "fundamental biology". Rather than incorporate into the new building only extensions or portions of units which would continue to be housed elsewhere in the hospital, we planned that whole research groups which qualify under the above criteria will be moved from the present quarters into the New Research Wing. This latter proposal constitutes the main basis for the application.

"The research groups moving into the new facility will continue their function of increasing the body of biomedical knowledge and will also expand their teaching and training activities with an intramural program of intensive research, teaching and training of promising young men from the clinical departments of the hospital. In this manner we hope to have a realistic program for establishing the long awaited bridges between clinical medicine and basic biological sciences. The present research personnel of the Massachusetts

General Hospital, because of its recognized quality and diversity should have all possible opportunities to fulfill this important function."

Additional new research space for Surgery and Pediatrics amounting to approximately 12,000 ft^2 net will be provided in the new Shriners' Institute for the Study and Care for Burns in Children to be erected on land adjacent to the Massachusetts General Hospital. This latter facility should provide excellent laboratory quarters for both fundamental and clinical research. This new facility which will be connected directly to the Massachusetts General Hospital by underground tunnel, should be ready for occupancy in 1966.

Construction has been completed this year of the Small Cardiopulmonary Building lying between Bulfinch and the Research Buildings designed to house laboratories for cardiocatheterization for clinical and experimental studies, under the direction of Dr. W. Gerald Austen of the Department of Surgery; Protein and Immunochemistry Laboratories headed by Dr. Edgar Haber, Chief of the Cardiac Unit of the Department of Medicine, and the Pulmonary Unit directed by Dr. K. Frank Austen of the Department of Medicine.

The imminent dismantling of the old Pathology and Domestic Buildings to make way for the new Surgical Services Building has required the immediate acquisition of laboratory space to house the dispossessed persons. Temporary quarters to be erected on the Bulfinch Lawn will be used to accommodate Bacteriology, Clinical Chemistry and several other smaller research units. However, these accommodations are still inadequate and it has become necessary to lease a block of about 8,500 ft^2 in Tech Square, Cambridge. It is planned that those laboratories leaving the hospital for this interim period will return when new space becomes available.

A large USPHS grant for a Transplantation Center for clinical and experimental studies has been awarded this year to the Department of Surgery, a brief account of which will be found in the report of that Department.

Because of the need for increasing interdigitation and cooperation between the research and clinical communities and the

administration at the Massachusetts General Hospital, the Board of Trustees, at the request of the General Executive Committee, appointed the Chairman of the Research Committee to membership on the General Executive Committee.

Three new appointments have been made this year which will add strength to both clinical and research activities at the hospital. Dr. D. Michael Young from the Johns Hopkins Medical School has been appointed Physical Chemist at the Massachusetts General Hospital and Assistant Professor of Biochemistry at Harvard Medical School. His broad interest in physical chemistry of proteins added to his medical background should aid in our efforts to "bridge the gap" between clinical investigation and basic biology.

Dr. Victor W. Sidel has been appointed Director of the new Preventive Medicine Unit at the Massachusetts General Hospital and also holds an appointment in the Department of Medicine at Harvard Medical School. Dr. Sidel is serving the hospital as consultant and collaborator in patient care, teaching, and research activities, and has initiated his own research and teaching in such areas as the patterns of admission, patterns and costs of care of patients at the hospital, the possible prevention of earlier amelioration of patients' illnesses, and the need of the hospital's personnel for certain preventive measures, such as small pox vaccination and tetanus immunization. The unit will also study specific illnesses as they occur in the community in conjunction with investigations of these illnesses among hospital patients.

The hospital has been fortunate in the appointment of Dr. G. Octo Barnett as Director of the Laboratory of Computer Sciences. This Laboratory will continue to encourage individual computer applications as well as the development of a major Massachusetts General Hospital computing service center. The Laboratory was also given responsibility for the direction of the hospital's effort in the joint research with Bolt, Beranek and Newman concerning the development and implementation of a hospital communication and information storage-retrieval system. This Hospital Computer Project, sponsored by contract with the National Institute of General Medical Sciences began prototype operation in December, 1964.

The Massachusetts General Hospital has been fortunate to obtain the services of Sir Howard W. Florey and Dr. Arthur Kornberg as members of the Scientific Advisory Committee to replace Dr. W. Barry Wood, Jr. and Dr. Robert F. Loeb, retiring members. We are most grateful to Dr. Wood and Dr. Loeb for their valuable service to the hospital during the past three years.

JEROME GROSS, M.D.
Chairman
Committee on Research

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Mrs. Francis M. Rackemann, *Honorary Member of the Board*
The President of the Vincent Memorial Hospital, *ex-officio*
The President of The Vincent Club, *ex-officio*

HOSPITAL STAFF

John H. Knowles, M.D., *Director*
Howard Ulfelder, M.D., *Chief of Staff*

Glenn H. Behringer, M.D.
Maurice Fremont-Smith, M.D.
Celso-Ramon Garcia, M.D.
Thomas H. Green, Jr., M.D.
Ward I. Gregg, M.D.
John W. Grover, M.D.
Arthur L. Herbst, M.D.
Francis M. Ingersoll, M.D.
Janet W. McArthur, M.D.
Langdon Parsons, M.D.
George S. Richardson, M.D.
Milford D. Schulz, M.D.
Bartlett H. Stone, M.D.
Chiu-chen Wang, M.D.

Miss Frances C. Grady, R.N., *Assistant Director in Charge of Nursing*
Miss Alberta M. Nigro, R.N., *Nursing Service Supervisor*

Vincent Memorial Hospital
Report of the Chief of Staff

IT is an honor to submit this report to the Trustees of the Vincent Memorial Hospital for it marks a decade for me as Chief of Staff. Again the non-private services, both ambulatory and in-patient, were busier this past year than ever before. This, in turn, has called fully upon our resources in order to maintain the quality and efficiency of service rendered. One should not in these circumstances let the opportunity escape to commend the resident staff, the nurses, the department of social service and our colleagues and consultants in tumor clinic and fertility clinic, on endocrinology and general medicine for their part in this gratifying performance. Malignant disease, as in the past, occupied more than one-fourth of our clinical effort and keeps the hospital in the forefront of institutions concerned with this specialized and demanding aspect of gynecology in the New England area.

The Visiting Staff too has been called on to maintain a similar pace even with the addition of Dr. John Grover, who has come to the Vincent Hospital after a thorough training at the Massachusetts General Hospital, the Boston Lying-In Hospital and the Free Hospital for Women under the special provisions of the Macy Program. He brings an active interest in and familiarity with current obstetrical practices to the department and will continue with research in tissue culture techniques which he began in England during his training years. The hospital administrative and office space on Vincent I has been efficiently redesigned to accommodate the inevitable expansion in geographically full-time staff which the future will bring.

Our teaching and research functions should no longer be singled out for special comment. They are an integral part of the hospital's role in the medical academic community. Both undergraduate and postgraduate education is continuously offered with one additional special course for two weeks in September, for which again more physicians applied than could be

accepted. Our staff also participates in the other postgraduate course in gynecology and obstetrics now offered by the Harvard Medical School each year in March.

Clinical and basic research results were reported in fifteen published papers. Studies in the laboratory continue in the details of steroid biochemistry of ovarian tissue (Dr. George S. Richardson), in the separation and constantly more accurate measurement of human pituitary gonadotropic hormones in blood, urine, and tissues (Dr. Janet W. McArthur), in a method for tissue culture of organ particles (Dr. John W. Grover), and in the effect of selected hormone compounds on the germ cells of the rat ovary (Dr. Suraj Prakash—at present serving as resident in clinical pathology at the Victoria Hospital, London, Canada). It is timely and notable that analysis of data by computer is now being done for experiments directed by Dr. McArthur and by Dr. Richardson. Each initially developed the programming which has made this great convenience accessible to him.

The staff is proud to report that Dr. Francis M. Ingersoll, Associate Clinical Professor of Gynecology at Harvard Medical School and a senior member of the Vincent Memorial Hospital staff has been elected President of the American Society for the Study of Sterility and will deliver the address at the Annual Meeting of the society in April.

HOWARD ULFELDER, M.D.
Chief of Staff

Report of the Department of Pathology

IT is pleasant to record that during the past year pathologists from abroad have continued to honor us with visits to our Department. Dr. E. Michael Darmady, Senior Pathologist at the Portsmouth and Isle of Wight Area Pathological Service, in England, was visiting pathologist pro tempore during April. Among those visiting for one or two days were pathologists from universities in Germany, India, Australia, Sweden, Iceland, Japan, England, South Africa, Egypt, Finland, Switzerland, Pakistan, Hungary, Italy, Philippines and Singapore.

With the change in the curriculum in the teaching of 3rd year medical students 48 students now spend twelve weeks in a course called "Introduction to the Clinic" and each student has had the opportunity to attend 12 of our early morning conferences. Thus before going on the wards each student was exposed to gross anatomical pathology, a subject that was not well covered in the past. Another innovation in the teaching of pathology occurred on the graduate level, when we gave a four-day course on the Pathology of the Endocrine Glands, under the auspices of the Harvard Medical School Course for Graduates. This course was attended by pathologists and endocrinologists from all parts of the country and will be repeated for at least the next few years. The talent of our staff in this field is well known: Dr. Austin L. Vickery with respect to the thyroid gland; Dr. Robert E. Scully, the ovary; Dr. Richard B. Cohen, the adrenal gland; Dr. Ronald C. Sniffen, the testis; Dr. Benjamin Castleman and Dr. Sanford I. Roth, the parathyroid glands. Dr. Castleman also discussed the thymus gland, and our visiting faculty were Dr. Agnes B. Russfield, who specializes in the pituitary gland, and Dr. Philip A. LeCompte, an expert on the pancreas.

The training program in teaching and research in pathology under the direction of Dr. Edgar B. Taft received considerable recognition for its success over the past five years and was granted an increased amount of funds for the next half decade.

This program continues to be of interest to potential pathologists as well as to the second-year students at Harvard Medical School, two or more of whom have joined the program each year as post-sophomore fellows.

In 1964, a companion volume to the collection of medical Case Records was published by Little, Brown & Company. The new book contains 50 selected surgical CPC's, edited by Dr. Castleman and Dr. John R. Burke of the Surgical Service. The project of supplying Clinicopathological Conference material to the medical schools of Asia, Africa and Latin America under the support of the Ely Lilly Company was terminated in the spring, but fortunately, the Agency for International Development (AID) of our State Department has found this just the type of educational project that they are anxious to support. Each month we now send via air-mail diplomatic pouch one MGH Case Record with pertinent lantern slides to 160 medical schools and hospitals; 75 are translated into Spanish, embossed with the Alliance for Progress emblem, and sent to Latin America; and 85 to the countries in Asia and Africa where the State Department has medical missions, including India, Pakistan, Nepal, Indonesia, Ethiopia, Liberia, Sierra Leone, Korea, Philippines, Thailand, Vietnam, and Teheran.

The World Health Organization Cooperating Center for the study of ovarian tumors in the United States has been established in our department under the directorship of Dr. Scully. Other centers are located in Russia, Poland, France, Denmark, England and Brazil. The purpose is to collect and exchange cases of ovarian tumors with a view to formulating an internationally acceptable classification and nomenclature, which will ultimately facilitate comparative evaluation of therapy. A long-range goal is to establish teaching centers throughout the world for the study of these tumors.

At the invitation of the Scandinavian Universities Dr. Castleman gave lectures and seminars in Bergen, Oslo, Helsinki, Stockholm, Gothenburg, Lund and Malmo. One of the highlights of the trip occurred at the Karolinska Institute of the University of Stockholm, where he delivered the first Hilding Bergstrand Lecture, which was established in honor of the pres-

ent emeritus professor of pathology at that Institute. Dr. Cohen participated in a symposium on the Histochemistry of Endocrine Organs at the meeting of the International Society of Histochemistry and Cytochemistry at Frankfurt, Germany, in August. Dr. Roth was honored by an invitation to present a paper in Canberra, Australia, at a conference on the biology of skin and hair growth.

The histochemistry unit under the direction of Dr. Cohen has continued its investigation of the histochemistry of oxidative pathways in tissues, with emphasis on the endocrine glands and the liver. This unit now has four fellows: Dr. Luis Fagundes from Brazil, who is studying factors affecting the distribution of phosphorylase activity in the liver; Dr. Harold Dvorak, who has devised a technic for the demonstration of increased amounts of phosphorylase using a fluorescent-antibody technic; Dr. Hubert J. Wolfe, who has continued his histochemical studies of acid mucopolysaccharides and lipids and in addition is investigating the response of splenic follicles to antigenic challenges in terms of the response of cells forming RNA; and Dr. John B. Blennerhassett, who is studying benign and malignant epithelial neoplasms of the intestine using histochemical approaches. Dr. Wallace A. Jones returned to the department in July after a two-year tour of duty at the Armed Forces Institute of Pathology. His current investigations are concerned with tritiated thymidine uptake and anatomical changes in the regenerating liver as compared to the immature fetal and adult liver, the development of a histochemical method for demonstrating the TPN synthesizing enzyme (DPN-kinase) and a histochemical and electron microscopical study of keratinization in the snake skin. In the microbiochemistry unit Dr. E. B. Taft has recently found that when carbon tetrachloride was given sequentially with hepatitis virus it produced an enhanced viral disease that otherwise resembled the usual infectious disease and not the toxic injury of carbon tetrachloride.

Dr. Vickery enjoyed the privilege of a six-month collaboration with Dr. Ramalingaswami, a visiting professor from the All India Institute, in New Delhi, where Dr. Castleman served in a similar position in 1962. Prof. Ramalingaswami, an out-

standing investigator in the fields of both thyroid and nutritional research, worked in association with Dr. Vickery, Dr. John B. Stanbury of the Thyroid Clinic and Dr. David M. Hegsted of the Harvard School of Public Health on experiments on the effects of protein deficiency on the rat thyroid gland. Following goitrogenic challenge a marked reduction in the growth response of the deficient thyroid glands was observed in comparison with pair-fed control animals; however, the thyroid glands from the protein-deficient rats exhibited a striking twofold to threefold increase in the ability to concentrate iodide (T/S ratio). Dr. Vickery has continued his interest in prostatic cancer and with Dr. Blennerhassett has analyzed 25 cases of total prostatectomy, which were studied with serial giant histologic sections and histochemical assays of various enzyme systems. Among their interesting observations were the finding of multicentric tumor foci in a quarter of the cases and the absence of special predilection for tumor localization in the posterior lobe.

The two weekly conferences on dermatopathology under the direction of Dr. Wallace H. Clark continue to attract dermatologists and pathologists. By serial-section studies of the skin of patients with dermatitis herpetiformis, bullous erythema multiforme and bullous pemphigoid Dr. Clark has recently demonstrated that each of these processes has a different mechanism for the histogenesis of dermo-epidermal separation. The ultrastructural mechanisms of pigment synthesis and cytocrinia after sunlight exposure in human volunteers is being studied in association with Dr. Thomas B. Fitzpatrick. Other problems under scrutiny concern the morphologic aspects of the allergic response of cutaneous vessels and their correlation with the changes in other organs. The histogenesis of malignant melanoma from lentigo maligna is being studied with the electron microscope. Dr. Caulfield's general program of electron-microscopical examination of peripheral vascular lesions associated with the diabetic state has been extended to include patients who have had coronary occlusion, apparently certain changes seen in the young diabetic patient are similar to those in the individual with coronary disease. Dr. Roth has contin-

ued his studies of the ultrastructural changes in organs with a cyclical production of protein, using as models the parathyroid glands for protein secretion and the hair and snake skin for internally utilized proteins. The factors affecting the control of parathyroid secretion were studied in the anterior chamber of the rat eye and in organ culture. As a member of the newly-formed Transplantation Unit, Dr. Martin H. Flax has been studying the pathological features of threatened graft rejection with both light and electron microscopy. An immunopathological study of cornea-graft rejection is also in progress in conjunction with Dr. Elliot and Dr. Liebowitz of the Massachusetts Eye and Ear Infirmary. Together with Dr. Dvorak, Dr. Flax is also investigating the induction of immunologic tolerance in adult animals. Dr. F. Daniel Foley, holding a post-doctoral fellowship from the National Tuberculosis Association is completing comparative geographic study of chronic bronchitis and emphysema begun in Newcastle-upon-Tyne, England last year. He is also studying sulfur^{35} uptake in bronchial cartilage and mucous glands.

During 1964 there was a marked increase in the work of the cytogenetics laboratory under Dr. Leonard Atkins. Most of the material investigated came from the Children's Service. Of the patients studied 21 per cent had abnormal karyotypes, and trisomy-21 (mongolism) was the most frequent abnormality (24 cases). In the remainder, investigation revealed a variety of chromosomal aberrations, among which were rarities such as ring forms and translocations. Close cooperation with the Fernald School is continuing, with fruitful results. Projected plans include further correlative studies with blood-group antigens and serum enzymes in patients with chromosome aberrations in an effort to map human chromosomes. Studies of normal human meiosis are being carried out with testicular material obtained from orchidectomy specimens. Also in progress are radioautographic studies of the pattern of DNA synthesis of human chromosomes, which were begun by Dr. Atkins when he was in Sweden; this technic is being applied to the study of cultured cells containing chromosome abnormalities.

The neuropathology unit under the direction of Dr. Edward

P. Richardson, Jr. has continued to carry out its functions as a center for training neurologists and prospective neuropathologists in human neuropathology. During 1963-1964 we were fortunate in having Dr. Arthur K. Asbury as an assistant and in 1964-1965, Dr. Byron A. Kakulas of Perth, Australia. Dr. Asbury's research interests have been in peripheral nerve disease and radiation changes in the nervous system and Dr. Kakulas' in diseases of skeletal muscle. Additional activities in the laboratory have included studies in childhood encephalopathies and Parkinson's disease.

The statistics of the diagnostic examinations are as follows:

	1963			*1964*		
	MGH	Outside	Total	MGH	Outside	Total
Autopsies performed	955	296	1,251	923	256	1,179
Autopsy percentage	65.1%			66.1%		
Surgical specimens	11,670	3,428	15,098	13,560	2,180	15,740
Microscopic preparations			91,642			101,157
Cytological specimens			13,817			14,505

BENJAMIN CASTLEMAN, M.D.
Chief, Department of Pathology

Report of the Hall-Mercer Hospital

THE Hall-Mercer Hospital exists as a separate unit in the Massachusetts General Hospital but is integrated with the Department of Psychiatry for purposes of clinical service and research. During the past year, twenty-four patients were treated and studied in the Hall-Mercer Hospital for a total of seven hundred fifty patient days.

Clinical Studies: The support of these individuals has permitted hospitalization of special problem cases who otherwise would not have been able to afford the prolonged stay necessary for adequate study. The patients thus served can be categorized as follows:

1. *Patients of special interest for the educational program involving resident physicians and medical students.* We have continued our concern with developing special tutorial teaching techniques and have admitted eight selected patients for this purpose.

2. *Patients with schizophrenic reactions.* Four such patients were admitted as part of a study aimed at determining the nature and prognosis of acute schizophrenic reactions at the time of severe emotional crises in individuals with fairly stable personalities.

3. *Patients with implanted electrodes.* The continuing joint studies with the Neurosurgical Service have been carried on with two patients in the Hall-Mercer Hospital. Prolonged investigations dealt with one patient suffering from intractable pain and one afflicted with psychomotor epilepsy.

4. *Patients with alcoholism.* Ten patients were admitted to the Hall-Mercer Hospital for an intensive and comprehensive study of the phenomena of withdrawal reactions. Metabolic and behavioral functions during experimentally induced intoxication and withdrawal were analyzed. Tests of motor skill and attention and of the patterns of social interaction were included in the program.

Laboratory Research:

1. *Biochemical and psychological laboratory studies*—Dr. Jack Mendelson. The phenomena of tolerance, behavioral adaption and physiological dependency may be associated with adaptive changes of ethanol metabolism in alcoholic individuals. To date, no differences in ethanol metabolism have been demonstrated between alcoholics and non-alcoholics. A review of the literature reveals that no data have been reported concerning adaptive changes in ethanol metabolism induced by chronic administration of alcohol to alcoholics. Recent findings obtained in our laboratory showed that alcoholic subjects who were given large quantities of beverage alcohol over long periods of time had relatively low blood alcohol levels. It was postulated that the rate of alcohol metabolism may be altered during long-term alcohol ingestion. In order to test this hypothesis, adult male volunteers between 30 and 45 years were selected from a group of inmates with long histories of alcoholism incarcerated at a Massachusetts correctional institution. The findings to date support this hypothesis.

2. *Neurophysiological Studies*—Dr. Frank Ervin. Temporal lobe epilepsy has long presented an interesting model for the clinical investigation of the neurophysiology of behavior. In addition, it presents a challenge and often poorly handled practical clinical problem. The use of chronically implanted electrodes has made it possible to investigate a small group of these patients systematically. The experimental observations and clinical results of the study suggest an important mode of neurosurgical intervention in certain forms of psychomotor epilepsy.

3. *Clinical Problems Investigated by Drs. Thomas Hackett and Harry Olin.* Thirty-two patients with an acute myocardial infarction were investigated soon after they were hospitalized. The principal symptom of all but one was pain. Despite the fact that most of the thirty-two patients were familiar with the symptoms of coronary disease, their first impulse was to explain away the pain by attributing it to other conditions less threatening than myocardial infarction. The patient's reaction was "it couldn't happen to me," an attitude which persisted long

after they were admitted to the hospital. The direct statements and hospital behavior of the thirty-two patients were consistent with their denial of death fear while serious cardiac symptoms were developing, and throughout their hospital course.

The third annual symposium of the staffs of the Philadelphia division and the Massachusetts General Hospital division of the Hall-Mercer Hospital was held in the Ether Dome of the Massachusetts General Hospital on March 9, 1965. The Massachusetts General Hospital studies were discussed in detail. The visiting investigators reported important studies as follows:

Research on Special States of Consciousness—Martin T. Orne, M.D., Ph.D.

Investigation on Psychological Factors in the Etiology of Toxemia of Pregnancy—Robert W. Meyers, M.D.

Changes in Attitudes toward Mental Illness and Fear of Psychiatric Patients with Experience in a Psychiatric Setting—Alan W. DeWolfe, Ph.D.

Both research groups although separated geographically maintain in this manner a mutually supportive relationship.

ERICH LINDEMANN, M.D.
Chief Psychiatrist

Report of the
John Collins Warren Laboratories
OF THE HUNTINGTON MEMORIAL HOSPITAL
OF HARVARD UNIVERSITY

PROGRESS in our understanding of neoplastic disease, as in other areas of research, occurs at an uneven pace. Often advances are initiated by one conceptual or technological breakthrough. For example, the pioneering studies of Gross on mouse leukemia, all stemming from his novel use of neonatal animals, initiated a decade of feverish activity on the possible viral etiology of many tumors. How important a role viruses play in human cancer is still unknown, but this past decade has brought forth major advances in our knowledge of what viruses are and how they may act to transform a normal cell into a malignant one. In these laboratories we have recently become interested in the Rauscher mouse leukemia virus. These virus particles have an inner nucleoid containing ribonucleic acid, the genetic material, surrounded by an inner membrane, with an outer coat of lipoprotein, and then an outer membrane. Experiments elsewhere with the more common viruses which do not produce tumors suggest that when a cell is infected, the viral genetic material dictates the formation of new proteins in the cell by substituting for the normal ribonucleic acids templates of protein synthesis. Drs. Stephenson and Zamecnik hope to demonstrate that the Rauscher virus acts in much the same way, substituting its ribonucleic acids for the normal "messenger" ribonucleic acid of the host cell. To this point they have been extracting ribonucleic acid from the virus and studying its effect on protein synthesis in cell-free systems, with which this laboratory has had much pertinent experience. Furthermore, infection with this virus leads to the production of several new proteins that may be detected by their antigenic properties, some in the virus particle and some in the whole cell. Actually, it is likely that the outer coat of the virus is a

direct contribution of the host cell, as the virus is produced by budding through the cell surface. Dr. McKhann is interested in unraveling the origin and relation of these new antigens.

Similar complexity confronts Dr. Allen, who has been studying infection with the avian myeloblastosis virus of chicken fibroblasts in culture. The infected cells produce viral particles which are slightly denser than myeloblastosis virus particles. Also virus production in these cells is sensitive to the drug Actinomycin, although this agent does not interfere with virus production by naturally infected myeloblasts. Again, it seems not unlikely that the host cell plays a major role in tumor virus infection, and that the detailed biochemical mechanism of this infection, as well as the detailed structure of the virus produced, may vary from one host cell to another.

Two recent technological developments are being exploited for various purposes in these laboratories and elsewhere. In biological research one is often frustrated by the small amount of material available for analysis; more sensitive methods permit old problems to be reinvestigated, and new ones to be tackled successfully. Drs. Kurt and Erika Randerath have pioneered in the development of methods for the quantitative evaluation of a few millimicromoles of individual nucleotides. For example, their procedure for the separation of nucleotide triphosphates is about 150 times more sensitive than that using paper chromatography. With their help, Dr. Bucher has been investigating the changes in nucleotide metabolism in the lobes of the liver which remain to regenerate after partial hepatectomy. Orotic acid-^{14}C was injected into rats at various intervals after partial hepatectomy, and the rate of incorporation of the tracer into uridine triphosphate and cytidine triphosphate, as well as nuclear ribonucleic acid, was determined. For example, within 45 minutes after hepatectomy, the 5-minute rate of labeling of uridine triphosphate was twice as rapid as in control animals. The goal of research with this system is to determine the initial metabolic event in liver regeneration, as well as the agent which stimulates it, and the description of these early changes in nucleotide metabolism represents another step in this direction.

In another research area, Mr. Pannbacker in Dr. Wright's

laboratory has been using thin-layer chromatography to follow the concentration of nucleotides in the slime mold *Dictyostelium discoideum,* during the differentiation of this organism. He has consistently found a peak and subsequent drop in the concentration of adenosine triphosphate and uridine triphosphate at about the time of accumulation of uridine diphosphoglucose, which is later used for cellulose synthesis.

Studies on the rotation of light by biologically important compounds have for some time been limited to the visible spectrum and only recently has it become possible to examine the optical rotatory activity of proteins and nucleic acids with ultraviolet light. The new equipment which we obtained this year has enabled Drs. Lamborg and Zamecnik to study certain features of the structure of soluble RNA hitherto not approachable. Soluble, or transfer, RNA acts as a carrier of activated amino acids to the ribosomes, where they are polymerized into proteins. It has been possible to distinguish the optical rotatory activity due to the overall helical structure of soluble RNA from that due to its component nucleotides, and it should be possible and interesting to describe the changes in structure of soluble RNA which occur when it interacts with specific activating enzymes. In other studies, Dr. Sarin has made optical rotatory dispersion measurements on the effects of organic solvents on soluble RNA, and Drs. Buc and Scott have used this technique to further their studies on the effect of ultraviolet light on the relation between the structure and a function of soluble RNA.

Work of the Endocrine Division continues to develop in sophistication and complexity. Nearly a quarter of a century ago Dr. Huggins of the University of Chicago made the brilliant observation that cancer of the male prostrate regressed remarkably following castration or administration of female sex hormone. Several years later it was observed by Dr. Nathanson of these laboratories that cancer of the female breast in the post-menopausal period was improved by administration of male sex hormone. A generation of careful investigation followed these discoveries, but the explanations have remained elusive. In pursuit of understanding of the hormonal relationship of tumors of the endocrine glands, however, great prog-

ress has been made in elucidation of the mechanism of action of sex hormones. Our laboratories under the direction of Dr. Lewis Engel play an important role in this field. During the past decade, their activities have shifted from the extraction of large quantities of urine from patients with endocrine diseases to a study of the synthesis of steroid hormones in animal tissues and of the way in which hormones modify and regulate our body metabolism. These investigations will inevitably lead back to a greater understanding of the lack of regulation of growth characteristic of the cancer cell. A few examples of the type of progress being made are given below.

Dr. Wilcox has continued his studies on the biosynthesis of estrogens by human placental microsomes. He found that 3β,19-dihydroxyandrost-5-en-17-one (synthesized by Dr. J. C. Orr) was converted to estrone and estradiol by human placental microsomes at a rate comparable to the rate of aromatization of 19-hydroxyandrost-4-ene-17-dione and much more rapidly than either androstenedione or dehydroisoandrosterone. Under certain conditions dehydroisoandrosterone was converted to a substance with the properties of 3β,19-dihydroxyandrost-5-en-17-one; thus, it appears that a secondary route for the biosynthesis of estrogens may exist.

Dr. Renwick has made important progress in the purification of the estradiol-17α and 17β-dehydrogenases from chicken liver. He has now succeeded in obtaining purified and stable preparations suitable for the measurement of kinetic constants and substrate specificities.

Dr. Karavolas has continued his examination of the 17β-estradiol dehydrogenases and their relation to the estradiol-sensitive transhydrogenase in human placental tissue. His studies suggest that at least three enzymes are involved: a DPN-dependent dehydrogenase, a TPN-dependent dehydrogenase and a transhydrogenase which transfers hydrogen from TPNH to DPN in the presence of catalytic quantities of estradiol.

Earlier substrate specificity studies on the 17β-hydroxysteroid dehydrogenase obtained from guinea pig liver had shown that the rate of oxidation is markedly dependent on the nature of

the substituents in Rings A and B. Similar effects have been found in purely chemical reactions and attributed to the effect of the remote substituent on the strains in the ring in which the reaction takes place. It is, therefore, important to determine whether the differing rates of the enzymatic oxidations depend on the intrinsic reactivity of the steroids or upon specific interaction between the enzyme and the complete steroid molecule. Comparison of the rates of chromium trioxide oxidation of the 17β-hydroxysteroids with the corresponding enzymic oxidation rates show that the inorganic reagent is much less sensitive to changes in the remote Rings A and B. Dr. Orr has made further attempts to correlate the magnetic environments of the 18- and 19-methyl groups as a measure of the angle strain in the steroid molecules with the rates of either the chromium trioxide or enzymic oxidation rates.

These studies are representative of our approaches to the basic mechanisms of steroid hormone metabolism and the interactions of steroid hormones with other biologically important substances.

During the past year, Dr. R. P. Martin from Colorado State University has joined the Endocrine Group to carry out studies on the purification of testosterone dehydrogenase, and Drs. K. Burton from Oxford and J. Haines from Cambridge have joined the Protein Group to carry out investigations on soluble RNA. Dr. B. K. Adadavoh left to become Lecturer in Medicine at the University of Lagos Medical School in Nigeria, and Dr. A. Aisenberg is continuing his immunological research at the National Health Institute in London.

In concluding this report, I would like once again to express my gratitude to the United States Public Health Service, the Atomic Energy Commission, and the American Cancer Society for their support, and to the Massachusetts General Hospital and the Harvard Medical School for the facilities and intellectual environment which are essential to our efforts.

PAUL C. ZAMECNIK, M.D.
Director

Report of the Coordinating Committee

THE reports of the M.G.H. member groups of the Coordinating Committee appear below for the Ladies' Visiting Committee of the Massachusetts General Hospital, the M.G.H. Service League and the Distaff Club.

MRS. R. MORTON CLAFLIN, CHAIRMAN, PRESENTS THE FOLLOWING REPORT FOR THE LADIES' VISITING COMMITTEE:

The Ladies' Visiting Committee has completed another year in its long association with the M.G.H., and we like to feel that we have made some meaningful contribution towards the hospital's task in taking care of the needs of the community which it serves.

The Visiting Committee headed so devotedly by Mrs. Taylor Black has arranged throughout the year to have visitors for patients who needed them. Nineteen members have given their time to this. We continue to have calls for this kind of help despite the changing patterns of hospital occupancy. The ladies who do visiting do so for two-month periods during which they come into the Hospital two or three times a week; thus, often they are able to make close contact with the patients whom they are visiting. This seems to mean a great deal to these persons, and Mrs. Black is always ready and able to send a visitor at any time a request is made from the Hospital.

Each afternoon from twelve until three, twelve months a year, coffee, tea, or lemonade is served to patients who are awaiting admission to the Baker. In view of the proximity of the Coffee Shop, the question was raised as to whether this service should be discontinued. Dr. Neumann's reply to this was, "No need to talk about it, it must go on! It's one of the important services we offer in the hospital. Not only the hospitality, but the fact that we give the patient something free." With this encouragement, Mrs. James T. Baldwin continued her responsibility for seeing that the schedule was fulfilled. Twenty workers completed more than 500 hours during the

year. In the four summer months, the committee provided a paid worker to cover the service each day.

For the past three years the Ladies' Visiting Committee has had a Children's Service Committee headed by Mrs. Francis Haydock which has worked with Nursing and the Recreation Services in helping to meet the social, emotional and physical needs of the children in the Burnham Unit. Supplies, toys and books have been purchased from time to time both for Burnham and for the Children's Clinic. At Christmas, stockings were filled for each child in the Hospital and a specially chosen present was given to each one on Christmas morning.

At the suggestion of Dr. Nathan Talbot, the Committee was asked to set up a Mother Bank to supply visitors to act as substitute mothers when this was deemed to be helpful, and when the child's own mother was unavailable. This program is being carefully developed with the guidance of Miss Lepper and Miss Grady and seems to be going well.

The Chapel Committee headed by Mrs. Frederick Deane and Mrs. Edward Bland reports that during the year the Chapel was thoroughly cleaned, the old tapestry removed and a new one given us by the Museum of Fine Arts. The seats of the chairs and kneelers were re-covered in a lovely material which blends with the new rug put in last year. The music which is installed in the Chapel has been a comfort to many, and the Chapel is used a great deal for meditation and prayer. Flowers are kept on the altar throughout the year and various pieces of adornment have been purchased in order to maintain the Chapel as beautifully as possible. Mrs. Deane has kept in touch with the Chaplains signifying the continued interest the Ladies' Visiting Committee has in the Chaplaincy Service.

The Ladies' Visiting Committee operates the General Store under the able chairmanship of Mrs. Gardiner Fiske. She and her committee are deep in plans to open a Branch Store in the Warren Lobby in the spring, and it is our hope that this will prove to be an added service to the Hospital.

The 1964 financial report of The General Store, which is operated for the benefit of the Hospital, is submitted by Mrs. Francis C. Gray, as follows:

Balance on Hand — December 31, 1963		$ 24,436.69
Cash Receipts 1964		109,618.51
Total		$134,055.20
Expenses:		
Salaries: (Inc. Pension, Social Security, Workman Compensation)	$ 14,581.30	
Stock Purchased	76,680.61	
Utilities Charge	163.20	
Miscellaneous: (Includes Excise Taxes)	690.62	
Total Expenses		$ 92,115.73
		$ 41,939.47
Paid to Ladies' Visiting Committee Earnings		15,000.00
Balance on Hand — December 31, 1964		$ 26,939.47

SUMMARY

Receipts	$109,618.51	
Expenses	92,115.73	
Cash Gain	$ 17,502.78	
Increase in Inventory	1,432.00	
1964 Operating Gain	$ 18,934.78	
Value of Inventory December 31, 1964		$ 5,522.00

The Traveling Store has been operated during the year by a group under the leadership of Mrs. Walter H. Anstey. In addition to one paid worker, there were 15 volunteers, 9 of whom are members of the Ladies' Visiting Committee. Mrs. Warton and Mrs. McKenzie were a great help as always. The patients appreciate the opportunity to buy the things they need and also seem to enjoy the visiting which accompanies the cart.

Each year at Christmas time, the Christmas Committee joins with the Hospital in plans for celebrating the holiday season. Mrs. John Coburn in 1963, and this year Mrs. Peter Hunsaker worked with Miss Shea and a group of other Ladies' Visiting Committee members to distribute trees, decorations and paints to all who requested them. Printed programs were sent to Hospital friends and patients. Groups of carollers were arranged for and guided through the Hospital. The Airport

Medical Station was decorated as well, to the satisfaction of the Hospital personnel there.

Mrs. Wheaton Kittredge and Mrs. Lawrence Whittemore reported in October that during the past year and a half, through the joint efforts of the Ladies' Visiting Committee, the Service League and the Volunteer Department, coffee had been served free to all the patients on the third floor of the Clinics Building. The Committee bought the supplies to get this service started and four or five of our members worked there in the beginning. The many other demands on our Committee have made it impossible for us to cover this activity, but we do take care of the expense of a person who serves cold lemonade during the summer.

The Art Committee under the co-chairmanship of Mrs. William Constable and Mrs. Nelson Aldrich has been exceptionally busy this year because of the redecoration of the Clinics Building. Several hundred pictures were required and for the most part reproductions were used. However, there are some original paintings hung, either on loan from the museums or having been lent by the artists. A few have been given to the Hospital.

Paintings are hung in various parts of the Hospital, and the before-mentioned tapestry was given by the Museum of Fine Arts for the Chapel. Miss Amelia Peabody responded to a request from the Art Committee with the gift of a charming lamb sculpture which is in the Coffee Shop.

Mrs. Aldrich is responsible for the Art Wagon, originated by the Ladies' Committee of the Institute of Contemporary Art and still partly under its sponsorship. Dr. Neumann again allowed the Art Committee to obtain as many excellent reproductions as were needed for this patient service.

The Annual Report of the Flower Committee made by its chairman, Mrs. George Brown, is full of all the lovely uses that have been made of flowers and plants through the Hospital during the year. Planters have been kept filled in the new Social Service office in the Clinics Building, in the Baker corridor, in Bulfinch 7, and in Bartlett Hall. Plants are kept in the White lobby with something flowering on the desk.

At Thanksgiving, Christmas and Easter special arrangements were made for the White Lobby, Baker, Phillips House, Coffee

Shop and the Chapel. The Christmas decorations were especially beautiful this year. And I do believe that throughout the Hospital there is a warm appreciation for the flowers and plants so much in evidence.

The Furnishings Committee has had relatively little to do this year as so much is being done by the Hospital towards renovating and redecorating. Mrs. Morrill Wiggin and her committee have done over the Waiting Room outside of Bulfinch 3. With the help of Mr. Lancaster they put in a new rug, lamps and tables and re-covered two stools. A second project was a recreation room for the residents in Parkman House. An anonymous donor gave $500 for this and with the addition of a bit more from the Ladies' Visiting Committee the furniture there was refinished and slip-covered, a new rug, curtains, tables and lamps were provided. The Art Committee gave pictures which helped a lot. At the present moment the Lawrence Room in the Volunteer Department is being redecorated by Mrs. Wiggin and her committee.

During the year, Mrs. Horace Frost served on the Social Service Advisory Committee, Mrs. Ellery Rogers on the Volunteer Advisory Committee along with the chairman of the Ladies' Visiting Committee, and the Committee has been represented at all meeting of the Coordinating Committee.

The Ladies' Visiting Committee has the privilege of administering a number of legacies and funds which come to us from various sources. We try very hard to fulfill our stewardship of these resources with imagination and appreciation.

The Coffee Shop and its operation has been and is a joint endeavor of the Ladies' Visiting Committee and the Service League. Its success has been a constant source of pleasure and gratification to us all, and we are continually mindful of the generosity of the Trustees in intially making it possible for us to embark upon this venture. A special report on the Coffee Shop is included in the Coordinating Committee Report this year.

I would like to close with a quotation from Walter Lippmann who has said that in our private and public conduct it is important "to do all we can to convince the disadvantaged that there is light at the end of the road". I like to think that it is in this spirit that the Ladies' Visiting Committee does its work.

SPECIAL REPORT ON THE COFFEE SHOP

Planning for the Coffee Shop began early in 1959 by a joint committee of the Ladies' Visiting Committee and the Massachusetts General Hospital Service League. This committee made an exhaustive study of Coffee Shops in the Boston area, New England, New York and Philadelphia. They submitted their report and recommendations to the Board of Trustees on February 12, 1960.

The firm of Shepley, Bulfinch, Richardson and Abbott drew the plans; the space just west of the Chapel was chosen for the Coffee Shop, and the building was begun in April 1963. By July the building had taken shape and the committee was busy thinking about counter equipment, china, silver and designs for paper goods—and all manner of things needed to dispense food attractively. In September a manager was hired who joined the Dietary Department to learn the ways of the Hospital.

The splendid modern Coffee Shop faces the glass corridor overlooking the quadrangle opposite Burnham and the Phillips House. Beneath the dining area is a spacious kitchen, manager's office, locker room and storage space. The Coffee Shop is open from 10:00 a.m. to 5:30 p.m., Monday through Friday. Since opening day it has served between seven fifty and eight hundred patrons a day.

The Coffee Shop opened officially on January 6, 1964 to welcome and to serve visitors, patients, relatives, friends of patients and hospital staff.

An Executive Committee made up of members of the two sponsoring committees, one member of Hospital Administration and the Director of the Dietary Department, are responsible for the operation of the Shop. The Professional Manager meets with the Chairman frequently and is present at the committee meetings which are held every two weeks. In May the Day Captains were also included.

The food is prepared by the professional staff and served by volunteers.

The success of the first eight months is due largely to the loyalty and faithfulness of our volunteers. During this period

399 adult volunteers gave 4,218½ hours and 116 student volunteers gave 1,934 hours. To serve more than eight hundred patrons a day takes a cheerful disposition, strong back and willing hands. During July and August the shop was operated almost entirely with student volunteers. These volunteers, both boys and girls, came to us largely from Miss Wolf's office. For them, we are deeply grateful.

The Coffee Shop is operated as an independent unit of the Hospital, bearing its share of administrative overhead. It is not subsidized.

The Trustees made available the money for the building and equipping of the Coffee Shop. Profits from the Shop will be returned to the Trustees until the loan is repaid. After that all profits will be used for Hospital needs.

In August members of the Service League gave a piece of modern sculpture in bronze, designed by Robert Cook, in memory of Catherine Burbank. Mrs. Burbank had been an enthusiastic member of the original Survey Committee and a past President of the Service League. The bronze hangs on the east wall of the Coffee Shop.

On November 12 our Hospital was host to the Coffee-Shop Workshop of the Greater Boston Regional Group of Hospital Auxiliaries at Walcott House. There were 90 persons in attendance at this interesting meeting and many lunched afterwards in the Coffee Shop.

As Chairman of the Coffee Shop this first year I wish to record that everyone who has worked for or in the Coffee Shop has contributed to its success. It is truly a service of many for the Massachusetts General Hospital and its patients.

ELIZABETH G. ALMY
Chairman
July 1963 - January 1965

MRS. CLAUDE E. WELCH, PRESIDENT, PRESENTS THE FOLLOWING REPORT FOR THE MASSACHUSETTS GENERAL HOSPITAL SERVICE LEAGUE:

The activities of the Service League have been extended year by year throughout the Hospital. As a result in 1964 several important new projects were instituted or implemented. Meanwhile the participating women increase in number and develop a deeper interest in the Hospital activities. Though this organization was founded by the wives of the professional staff, the Service League now invites all women wishing to volunteer their services to the Hospital to join their ranks. At the same time these women become ambassadors of good will from the Hospital to the community at large.

The nerve center of the organization continues to be the Reception Center for Professional Visitors located by the main entrance to the Hospital. Staffed each week day through the year, the Center, now in its tenth year, continues to offer this unique and friendly service to visitors from all parts of the world. Though the number of visitors from abroad who require help during the year has become stabilized at about 200, the many requests for assistance channeled through the 42 desk workers increasd 50% over the preceding year.

The 101 doctors from foreign countries, many with families, and the 13 Americans helped by the Housing Committee presented some difficult problems due to a variety of nationalities and financial restrictions. Many of the deserving visitors borrow articles and sometimes complete equipment for their homes from the Furniture Exchange. To comply with fire laws and to guarantee continuation of this worthwhile assistance the Service League had to underwrite the installation of a sprinkler system in the furniture storage area so generously supplied us by the McLean Hospital.

The Reception Center also serves as a clearing house for tickets donated by friends to the hospital family, particularly to those from abroad. This year 119 were privileged to attend the Boston Symphony, 34 the Mason Music Foundation concerts and 50 theatrical events through this service.

The most eloquent testimony to the need and gratitude for

the assistance offered by the Reception Center is given by those women whom we have helped who, after some months of residence here, return to offer their own services in staffing the desk daily.

Hospitality and an opportunity to meet a wider circle of the hospital staff is provided the professional visitors from abroad at a fall and a spring tea. For those families with small children picnics are planned during the summer with their American counterparts. To supplement the holiday festivities, or other invitations in our American homes, a barbecue is held for members who have come alone to America and need an opportunity to make more acquaintances.

The ever increasing number of people passing through the hospital corridors now enter from every point of the compass so that the need for information centers located in strategic areas becomes more pressing. Some 150 visitors stop for directions in the Brick Corridor daily seeking help from this desk which our volunteers staff each week day from 10:00 A.M. to 3:00 P.M. As construction and relocation of hospital facilities accelerate, this service will have to be enlarged.

The Information Center in the Clinics must provide even more personal help. In 1964 over 10,500 people were given assistance here. At this site not only directions are sought by the bewildered, and often ill, clinic patient, but also explanations of the often complicated procedure of admission or payment.

Another project within the Clinics, and the first one jointly sponsored by the Service League and the Ladies' Visiting Committee of the Massachusetts Eye and Ear Infirmary is being initiated in the Admitting area. Here the volunteer greets the patient and cheerful direction is offered in an effort to make that important first impression of the Hospital's care of the ambulatory patient a good one.

The Service League also continues to provide a hostess to serve refreshments and give assistance to the disabled patients attending the Amputation Clinic.

A continuing source of pleasure for the longer term patient is provided by the biweekly Chapel Concerts held during the winter season. A corps of our volunteers escort the approxi-

mately 50 wheelchair or ambulatory patients from and back to their hospital beds. The Service League is deeply grateful to the performing musicians, the Nursing Service, and Miss Marjorie Shea for their assistance in the many details of each concert.

January 6, 1964 marked the opening of the long discussed Coffee Shop sponsored jointly by the Ladies' Visiting Committee and the Service League. A special report on the Coffee Shop is included in the Coordinating Committee Report this year.

In July a decorative bronze sculpture, donated by Service League members and friends, was hung in the Coffee Shop in memory of the late Catherine M. Burbank, a past president of the Staff Wives Association and a member of the first Coffee Shop Committee.

To fulfill the volunteers' need for more knowledge of the history of the Hospital as well as plans for the immediate future, the Service League had as speaker for the winter luncheon Dr. Nathaniel W. Faxon, Direct Emeritus of the Hospital; and Mr. John E. Lawrence, Chairman of the Trustees, at the annual meeting in May. We have continued to mail the "Bulletin" containing pertinent information at three-month intervals to the total membership. Fourteen meetings were held this fall in various suburban areas to acquaint members who could not participate in in-hospital projects with the details of Service League interests.

Cooperation with the Distaff Club continues in many areas, fostered by a representative from this group who attends the monthly Service League Board meeting. The Spring Dance was sponsored jointly by the two organizations, and this year the Distaff Club was hostess to Service League members at a series of teas in different localities.

Two representatives attended each meeting of the Coordinating Committee and the Advisory Committee to the Volunteer Department. The President and President-elect traveled to Chicago in August for the annual meeting of the American Hospital Association. The Service League also continues active participation in the Greater Boston Region and Massachusetts

Hospital Association Auxiliaries, and the New England Hospital Assembly.

The year 1964 has been an outstanding one for the MGH Service League. Founded with the express purpose of providing service to the Hospital, this period has shown a marked increase in participation, particularly by the younger women, in all our undertakings, as well as the addition of the new projects already described. At the same time the cooperative efforts of the three women's groups within the Hospital have reached a high point. Such interest cannot fail to bring benefit to Hospital and participant alike.

MRS. MICHAEL JABALEY, PRESIDENT, PRESENTS THE FOLLOWING REPORT FOR THE DISTAFF CLUB:

The Distaff Club is composed of the wives of house officers and fellows at the Massachusetts General Hospital, the Massachusetts Eye and Ear Infirmary, and McLean Hospital. Also included in our membership, if they wish to join, are women who are house officers, and fellows themselves.

During the period covered by this report, we had several very interesting and educational general meetings. They included a talk on modern architecture by Tom Payette, a young Boston architect; Mrs. Louise Day Hicks speaking on the problems and accomplishments of the Boston School Committee; a talk by one of our own members, Lee Williams, about the two years she spent in Iran when her husband was stationed there in the Army; and a speech by Dr. John Constable intriguingly entitled "What Most People Miss When Visiting Boston". Each of these programs was followed by a question period and a coffee hour.

On the purely social side, there was a hootenany to which the international visitors to the Hospital were invited. Next on the calendar was our Christmas cocktail party in the Penthouse. Dr. and Mrs. John Raker gave us the use of their grounds in Concord for a midwinter skating and sledding party. In May we joined with the Service League in sponsoring the annual Spring Dinner Dance at the Harvard Club. On Memorial Day, Dr. and Mrs. Bradford Cannon again welcomed us and our families to a picnic on their grounds. Also,

in the spring, we gave several small teas in our homes for the members of the Service League, who have done so much for us. In July we helped Dr. and Mrs. Knowles and the Administration with a tea to welcome the incoming House Staff.

The service aspect of the Club's activities included Halloween and Valentine parties for the children in Burnham, the gift wrapping of more than 600 presents for the Hospital Children's Christmas Party, and the making of bibs for the pediatric patients. In the spring, our Housing Chairman, Mrs. George May, sent information about the Boston area and about specific apartments available to all the incoming house staff families. Our Area Chairman, Mrs. James Callison, tried to see that each new wife was visited in July by an old member who lived near her and could give her advice about schools, churches, shopping centers, baby-sitters, and a myriad of other things.

In August our directory was issued. This indispensable little booklet contains the names, addresses, telephone numbers, and husbands' positions of over 300 Distaffers. Published yearly, its production is a real job, as about a third of our membership changes each year. We also published four newsletters, through which the members were kept informed of the activities of the Club. The *Distaff News* is also used to exchange information about discount houses, furniture for sale, jobs available, houses for rent, new babies, and so forth.

Financial support for our programs, parties, and publications, was provided by annual dues of $3.00 (about 125 women were dues-paying members); our November Bake Sale, which netted about $150; and a gift of $100 from the Ladies' Visiting Committee.

Throughout the year we were busy working on our cookbook, "Distaff Dishes", which was published after the conclusion of the period covered by this report.

In April new officers were elected for a one-year term. They are: Mrs. Michael Jabaley, President; Mrs. Graeme Hammond, Vice-President; Mrs. John Noble, Corresponding Secretary; Mrs. Richard Root, Directory Secretary; and Mrs. Bruce Zawacki, Treasurer.

Report of the Advisory Council of The Massachusetts General Hospital School of Nursing

EIGHT regular monthly meetings of the Advisory Council were held from September 1963 through May 1964 with the exception of the December meeting.

This year the Council in studying the overall educational program of the M.G.H. School of Nursing has considered the improvements in the diploma program, evaluated the Alternate Program with Northeastern University which terminates after two successful years trial, and reviewed the changes in the Co-ordinated Radcliffe-M.G.H. Program.

Statistics concerning the graduating and entering students will be found in the Report of the Nursing Department. The work of the Admissions Committee should be commended as it studies the credentials of over twice the number of applicants accepted.

The Council reviewed the specific suggestions for improvement in the M.G.H. program of education as submitted by the Board of Review for Diploma Programs following the re-survey of the School by the Accreditation Committee in the spring of 1963.

Three months were devoted by the Council to the study of the report of the Surgeon General's Consultant Group on Nursing, the primary purpose of which was to delineate the role and responsibility of the Federal Government in ensuring adequate nursing service throughout the nation during this period of a most critical shortage of nurses and to make appropriate recommendations to meet the urgent needs for more and better prepared nurses.

The Student Nurses Cooperative Association is to be congratulated for its excellent organization. Of particular interest is the relatively new Junior Proctor System to help Freshmen. Two summer workshops (Gloucester, '62, Plymouth, '63) were

held in order to discuss many aspects of student life—situations involving dormitory living, social values, moral standards, study habits, school activities, the honor system, other resources for students—and ways and means of improvement.

For the third year a Parents' Program for Junior students was planned on two successive Saturdays in October and included a panel discussion, luncheon, and tour of the Hospital. This year the parents rather than the students made up the panel, and it was evident from their remarks that the parents thought their daughters' educational program for nursing had brought about a new awareness and a higher sense of values in general.

The Annual Joint Luncheon meeting with the faculty of the M.G.H. School of Nursing and the Advisory Council was held in April. An informative and objective talk on collective bargaining and a discussion of the pros and cons of the subject proved both timely and appreciated in the light of the proposed legislation to extend the coverage of the State Labor Relations Law to include health care facilities and their nurse employees in Massachusetts.

The Trustees Committee to the School of Nursing has met four times during the year. Mr. Lloyd D. Brace succeeded Mr. John E. Lawrence as chairman, and new members include Mr. Francis H. Burr from the trustees, and Doctors Daniel S. Ellis, Earle W. Wilkins, Jr., and Robert Ganz from the staff. I know the Council will wish to go on record in expressing thanks to Mr. Lawrence for the many recommendations he has made to the trustees in the past on behalf of the School of Nursing.

Miss Sarah D. Abbott, representative from the field of education and Miss Louise Hatch from the field of nutrition completed their terms of office at the Annual Meeting in May 1964, as did Miss Eileen Wolseley representing the M.G.H. Alumnae Association. I regret to announce the resignation of Miss Alice Casey, also representing the field of education. Their contributions to this Council have been great, and we shall miss them.

The Advisory Council wishes to take this opportunity to thank Mrs. Robert Homans for her outstanding work as a

member of this Council since 1924. She has been appointed an honorary member.

This report would not be complete without mentioning the Winchell School, a separate building adjacent to the grounds of the M.G.H. which has been acquired for the much needed use of the School of Nursing.

FRANCES J. FAHNESTOCK
Chairman

Nursing Department

	1964
Average No. of Graduates on General Hospital Staff and Clinics	312
Average No. of Graduates on School of Nursing Staff	53
Average No. of Graduates on Baker Memorial Staff	93
Average No. of Graduates on Phillips House Staff	94
Average No. of Student Nurses	351
Average Total	903
Total No. of Students Admitted	154
Students Dropped and Resigned	42
Average No. of Graduates on General Hospital Staff *Part time	14
Average No. of Graduates on Baker Memorial Staff *Part time	16
Average No. of Graduates on Phillips House Staff *Part time	18
Total *Part time Graduates	48

CENSUS OF THE NURSING SERVICE AND SCHOOL OF NURSING
October 1, 1964

Graduate Nurses, General Hospital and Clinics	320
Graduate Nurses, School of Nursing	57
Graduate Nurses, Baker Memorial	84
Graduate Nurses, Phillips House	93
Total	554
STUDENT NURSES:	
Students M.G.H.	363
Students Coordinated Program with Radcliffe College	22
Students from other schools of nursing	52
Total	437
TOTAL GRADUATE AND STUDENT NURSES	991
Distribution of Student Nurses Assigned for Clinical Experience	
General Hospital	
M.G.H. Students	124
Simmons College Students	23
McLean Hospital Students	23
Baker Memorial	
M.G.H. Students	18
Simmons College Students	6
Phillips House	4
Boston Lying-in Hospital	22
McLean Hospital	28
Coming to M.G.H. for Field Experience, or Affiliation during year 1963-64	
Simmons College School of Nursing	23
McLean Hospital School of Nursing	25
New England Baptist (The Clinics) Terminated Sept. 29, 1964	63

*Part time nurses expressed in equivalent of full time.

The Nursing Department

The School of Nursing

IN this era with its competition for well qualified applicants and able teachers who are well prepared, with the rising costs of nursing education and the decreasing contribution of the student nurses to the care of patients, an annual assessment of the assets and liabilities of the School is a prime requisite.

The M.G.H. School completing now its ninety-first year has graduated 5,424 nurses. It is not possible today to determine what percentage of all these women remained to work at the Hospital. But those who were graduated before the 1930's had, as student nurses, already contributed their share of nursing care to the patients of the M.G.H. In fact by graduation they had returned services to the patients more than equal to the cost of their education. Today the noteworthy student contribution to patient care is made in the third year. During the senior year students begin to develop the learnings of the first two years into nursing skills. They learn to nurse the critically ill, to direct the nursing care of other personnel, and increasingly to carry broader responsibilities including that of the evening and night periods. In this year the student gradually equates her hourly value with that of the graduate staff nurse. But as these young women are still students, and must meet educational objectives, this contribution although very significant cannot even here be compared monetarily hour for hour with that of the graduate nurse.

However, we do know that this year, as for several years past, 66% of those graduated have returned to work at the M.G.H. Presently, of the 554 graduates employed in all categories in Nursing, 176 or 32% are graduates of this School. These nurses represent an important and tangible value of the School to its parent hospital.

Recruitment, selection and admission this year reflected the growing competition for candidates to nursing schools. There were 432 applicants who completed their formal application

to the 1964 entering class, fewer than usual due, in part, to the termination of the plan affiliated with Northeastern University. Of these 432 applicants, 204 were appointed to the class. Of these 204, there were 81 who withdrew before entrance. Many withdrawing had chosen to accept an appointment to a college school of nursing as their preferred choice.

Thus far the quality of applicants has not changed. Of the 123 admitted, 35 were graduated in the top tenth of their high school classes, 73 in the top fifth, and 98 in the top two-fifths. Geographically a higher percentage came from New England.

Although our fees were raised in 1963, making our School one of the more expensive hospital-conducted schools in the New England area, there was less demand for financial aid. First year students were granted $10,900, while $4,350 went to juniors, and $1,600 to seniors. Of this amount $4,600 represented income from invested scholarship funds; $12,250 was given in remitted tuition and fees. The use of the Hospital Loan Fund increased. It is hoped the establishment of the Federal Loan Plan under the Nurse Training Act of 1964 will reduce the need for the School to share quite so heavily in financial aid to the students.

In July, acting for the Trustees' Committee on Nursing, Mr. Lloyd Brace, Trustee, Chairman of the Committee, Dr. John Knowles, General Director of the Hospital, and the Director of the School of Nursing studied the provisions of the Nurse Training Act applicable to the School, to prepare for participation as desired opportunities arose. As this year ends no further action has been possible as funds are not yet available to the schools.

Attrition this year was higher than in the previous five years; 31 students, 25% of the freshman class, withdrew. Of these, 10 failed to adjust either to their studies or to the nursing practice. Two of the withdrawing students were readmitted in September, 1964, there were 13 who withdrew to enter some other field of work or study, 3 were married, and 5 left for health reasons. In contrast, only 4% of the second year and 5% of the third year classes resigned.

Equal to our concern for the supply of able applicants is our concern for the quantity and quality of teachers interested in

working with us here in a diploma school. In the year 1963-64 of the 14 appointments made to the School, 8 were to teaching positions. Only 3 of these 8 hold a Master's Degree with special preparation in teaching. Five having only a Baccalaureate Degree with varying amounts and kinds of experience in nursing must now, as they teach, learn the techniques of teaching, course construction and principles of guidance, as well as develop reasonable competence in their subject area. Four of the eight, as returning M.G.H. graduates, did have the advantage of knowing something about the Hospital and the School.

Saving time for teachers to teach is now as important as saving time for nurses to nurse. This year one teaching position was withdrawn, and a second Counselor added. The major portion of her time will be concerned with admission interviews and procedures which heretofore have been carried in large part by senior faculty.

Rising costs of the School are due to many factors, one of which this year was the much appreciated increase in pay for the School Staff. Without doubt a second major cause for the increased cost of nursing education is the changing curriculum with its reduction in time allowed for the student to contribute to the Nursing Service. The curriculum in a school of Nursing is no longer either simple or static. Nor is it only a matter of theory taught in the classroom. The student's experience in patient care is an integral part of every course, and must be so planned, taught, and evaluated. For this reason the service value of the student's assignment grows less as her contribution becomes more and more the by-product of her learning. To keep pace with changes in education and nursing, courses must be reviewed and revised yearly, sometimes bringing a redistribution of student learning experience and consequent further reduction of value to the Nursing Service.

Especially it is important for the Nursing and Medical Services to understand the needs of students in the Nursing School, their differences in readiness to function, and to take responsibility as compared with employed staff. Whatever the changes may be each year the School's primary goal remains the same: to graduate a nurse prepared to give direct patient

care in a demanding hospital situation such as the M.G.H., with insight to realize her continuing responsibility to learn.

The Boston Lying-in Hospital inreased its affiliation fee from $75.00 first required in September, 1963 to $125.00 as of September, 1964. Simultaneously, the Boston Lying-in reduced its affiliation from 13 to 12 weeks. This change necessitated rearrangement of the entire second year schedule providing twelve-week terms for pediatrics and the psychiatric affiliation, and one four-week intersession period in August. Major curriculum changes resulting from the revised schedule included an increase in the Clinics experience from four to six weeks with an improved teaching program, an increase of four to six weeks vacation, and during the intersession a revised plan for orientation of the students to the senior experience which is to follow. Students now have 15 weeks vacation during their program: five weeks in the freshman year, six weeks in the junior year, and four weeks as seniors.

The brief experiment begun with Northeastern in 1962 to enrich the diploma program, was terminated in September, 1964 as Northeastern University opened its own College of Nursing. Two classes had been admitted to our program. The first class entering in 1962, now 18 students, as seniors in our School of Nursing carry a course in the humanities at Northeastern University. The second class of 28 students completed their affiliation in May, returning to the School of Nursing. They now carry Psychology at the University. Too few students were enrolled and the program terminated too early for valid evaluations, but much has been learned.

In the spring word was received from President Bunting that Radcliffe College was to terminate its relationship with the Coordinated Program. It was then voted by the Trustees' Committee on Nursing to discontinue admissions after June, 1964, but to continue to study the future possibilities for college graduates within the Boston area. Applications from a significant number of well qualified young women, and inquiries from college placement offices during the summer lead us to believe that the supply of college women interested in nursing would be more than sufficient to justify the conduct of a special program for this group.

After sixteen years, the New England Baptist Hospital School of Nursing has discontinued its affiliation in the M.G.H. Clinics. Changes in our teaching program and the availability of experience at a newly opened clinic nearer to the home school made the change expedient. We regret the loss of this relationship which has been a constructive one. This change marks the end of an era and emphasizes a growing trend away from the traditional affiliation.

During the year 1948 the M.G.H. School accepted 300 affiliating students from 14 different schools. These students came for periods of one month to one year. Many of these affiliations had been accepted as a part of our war-time contribution to nursing education. Traditionally, the affiliating student lived in our residences and was taught with our own students. Nursing schools at that time sought such affiliations to secure requisite instruction and practice, without regard for compatibility of educational philosophy and objectives between the home and the affiliated school. Courses were not always suited either to the students' background or needs. Today the M.G.H. School accepts only one traditional affiliation, that is the McLean School of Nursing for instruction and practice in operating room nursing, pediatric nursing, and Clinics. In lieu of the traditional affiliations, three schools now contract with the Nursing Service to send their instructors and students into the medical and surgical patient care units for experience. One of these schools is the McLean Hospital School, coming for medical and surgical experience. A second is Simmons College, whose original relation with the M.G.H. began in 1917. Now a third, Northeastern University College of Nursing's Associate Degree Program, began to send its students and teachers in September, 1964. With the exception of the McLean Hospital students, these college women pay for their meals in the cafeteria and live at home or at their respective colleges.

The Nursing School is considerably relieved by the trend away from the traditional affiliation. The Nursing Service finds its educational responsibilities more complicated with more students with different needs in varied programs, more teachers with whom to plan, more groups coming for shorter periods of nursing practice, more precise selection of patient care assign-

ments, and more day by day fluctuation in numbers of persons involved in patient care. In a single day in the spring it is possible to find as many as 260 M.G.H. diploma students at five different stages of experience and learning, 6 students from our Coordinated Program, 22 McLean students, 30 Simmons College students, 30 Northeastern University students, 70 practical nurse students from two different schools, at two or three different stages in their education, and 12 graduate nurses from Simmons College or Boston University. Each group comes to the patient areas with its own teachers. The need to prepare more nurses in all categories here represented brings into sharp focus the growing problems created by nursing education in the patient care areas.

Much time has been given this year to the study of the School's future. In spite of pressures from the profession itself for collegiate education, in spite of pressures from some of our alumnae, we believe at this time that our School should continue as a three-year, diploma program conducted by the Hospital. This appears to be the time to build, rather than to decrease, the supply of graduate nurses for the Hospital and the community. This decision was made, however, with the understanding that both further study and improvement of the School's program would continue.

The Nursing Service

The continuing upward trend in what seems an insatiable demand for nursing care can be shown in several ways. First, there has been a steady growth in the numbers of patients to be cared for.

	58-59	*59-60*	*60-61*	*61-62*	*62-63*	*63-64*
Highest average daily occupancy	864	853	919	925	974	969
Lowest average daily occupancy	718	722	721	792	793	827

Not evident in this chart of averages are other complicating factors. The chart cannot show that in six days in January the number of patients rose to 1,000 or over; that the patient occupancy ranged within one week from 775 to 1,011; that during each of the four weekends in the same month over 100 patients were admitted to the Hospital; or that the head nurses' daily

forecasts of nursing needs showed a steady intensification of the care required. For example, the Bulfinch Building with an intensive care unit planned for 18 medical patients showed 30-50% of its total 118 occupants with personal needs, medical orders, and plans for nursing care each day equal to those of the patients placed on the intensive care unit. Similarly the head nurses in the White Building consistently estimated 40-50% of their patients in need of maximum care. It has been clearly demonstrated this year that as occupancy increased the critical character of the patients' needs intensified, bringing an increase in both numbers and complexity of care.

Nursing practices furnish another index of intensity of care. For example, in preparation for the trial use of the computer on the wards the nurses with the computer study examined activities for administration of medicines involved in our procedure. This particular procedure was selected for computer study because of our concern over the constant increase in numbers of medication orders, and the excessive time now required for administration. The medicine card system has been used for many years. The plan has been revised from time to time as we searched to improve it. On one floor in the Baker Memorial on one day between 7:30 a.m. and 3 p.m. to correct the cards, sort the cards for use at designated periods, to add, modify and eliminate cards as medical orders changed, the nurses and secretary handled individual cards 1,134 times on this one ward alone in that eight hour period.

Efforts to meet the rising demands for nursing care took several forms. The Volunteer Department sought workers to supplement the staff, and were especially successful during the evening period. The Personnel Office maintained an active program for the recruitment of graduate nurses and other personnel. Their success is securing nurses and maintaining a more constant supply is evident.

	58-59	*59-60*	*60-61*	*61-62*	*62-63*	*63-64*
Highest average monthly nurse employment	310	324	352	360	406	417
Lowest average monthly nurse employment	237	284	269	305	344	387

Promising as these figures appear, if considered alone they

give a distorted picture of our nurse supply. They do not show the unequal distribution which results from a nurse's work preference or her inability to meet the demands of a specific service. They cannot show the impact of unexpected illnesses or the lack of ready staff to fill the gap. They do not show the great increase in the number of nurses assigned to evening and night periods. From 33.5 evening staff nurses and 34 night staff nurses in 1955, the numbers have now grown to 86.5 and 66.5 respectively. They fail to show the instability at all periods of the day when permanent evening and night nurses cannot be employed, so that nurses must be removed from the day staff to rotate for coverage during the evening and night. And yearly, as the complexity of patient care demands more knowledge and skill, the private nurses to supplement the Hospital Nursing Staff decrease both in number and preparation adequate to the responsibility.

Figures of nurse employment also cannot show the detrimental effects of attrition.

	58-59	*59-60*	*60-61*	*61-62*	*62-63*	*63-64*
Average % nurse attrition all units	79.8	71.6	77.7	72.0	62.1	68.9

In considering these figures it is significant to note that the loss was highest where the intensity of care needed was greatest. This year the Bulfinch and White Buildings showed 100% and 84.1% attrition respectively. The cost of such attrition must be measured in weeks of effectiveness lost during orientation and in time required to prepare adequately for the special responsibilities of evening and night assignments.

The search for ways to conserve nursing time and to improve both nursing care and services has been constant. The unit manager plan which has been spread throughout the White Building has contributed to both. The plan has unquestionable value, and is better adapted to the changing administrative needs of the patient care units than the traditional system which has increasingly withdrawn the head nurse from the patient care responsibilities.

Nursing has benefited by the development of the MOSAICS introduced by Mr. John Webb, Director of the Pharmacy. With

the resulting decrease in requisitions, the introduction of a "medicine closet on wheels" and a new procedure to replace the medicine card system, noteworthy strides were made in saving time and increasing accuracy.

The search for new and more efficient supplies also continues under the watchful eye of the Hospital Committee on Purchasing on which the representative from Nursing plays an active part. When nursing time can be saved with pre-processed and/or effective disposable materials such materials have been sought. As these supplies are secured the problems of storage and waste disposal take on primary importance in buildings now in use from seventeen years to more than a century. Nurses and nursing personnel whose responsibilities confine them physically to the patient unit cannot expand their work area to add space for new equipment or supplies. Only the most imaginative planning with and by all groups involved will produce future buildings to meet the need.

Specialization in nursing care, always evident to some degree as nurses voluntarily chose to gain skill in a selected clinical area, now becomes a necessity. No longer can all nurses be generalists in a hospital such as this. This year has seen growing specialization in dermatologic nursing, the respiratory unit, and in the nursing at the Medical Station at the Airport. Now we anticipate a similar need and interest on White 12 with the organ transplant program, and in gerontology in the Bulfinch.

The referral plan for continuity of care has again served a valuable purpose with orders for approximately 280 to 330 patients sent out monthly. As expected today the majority of patient referrals were for care in nursing homes.

The Committee on Nursing in Disaster set up a plan for Nursing consistent with the Hospital disaster plan, prepared special materials, and oriented the nursing staff to both the disaster plan and to fire prevention and control.

Staff Education continued the orientation program for all new personnel coming to Nursing, taught three programs for aides, planned and implemented two units for head nurses, shared in the teaching of disaster nursing, initiated a series of sessions for unit managers, and planned special meetings for

all groups including supervisors and assistant directors of nursing.

No group more than the Nursing Practice Committee is faced with the problem of deciding where and how the nurse's responsibility can be safely extended or what part the nurse should assume as functions shift and change in the medical and patient care teams. Composed of nurse administrator, supervisor, head nurse, and staff nurse, licensed practical nurse, and representative from the School of Nursing, this Committee watches for new advances in medicine and nursing and for equally important opportunities to simplify or eliminate old practices no longer pertinent. Medical consultants appointed by the Chiefs of Staff help the Committee to secure approval where necessary without loss of time. A list of procedures added this year testifies to the changing pattern of care.

Housing for graduate nurses continues to be an urgent need. Since 1961 when the Nursing Service requested the inclusion of a graduate nurse residence in the 150th Anniversary drive, housing for graduate nurses at M.G.H. has been a deterrent to employment. The emphasis at that time was on type of accommodation; apartment in lieu of student residence. Today the urgency of the situation grows. But, the need now is also for beds. As the year closes 142 graduate nurses and licensed practical nurses live in Bartlett Hall and Walcott House. With 267 M.G.H. students and 39 affiliating student nurses and practical nurses to be housed, we shall shortly reach the point where only the graduate nurse who will live out can be employed. The graduate nurse who is a stranger to Boston may choose to go elsewhere.

During the year 187 courses were taken by nurses who took advantage of the course scholarships given by the Hospital. One hundred and nineteen of these were taken by staff nurses and seventeen were head nurses. Although the results of the study may not be evidenced at once in greater skill in nursing, there is no question of the attractiveness of the plan to the graduate nurse applying for work at the M.G.H.

As the year comes to an end, a new pay schedule for graduate nurses becomes effective. The early announcement of the

plan has helped both to hold and to secure nurses for the coming year. Both Nursing Service Staff and the Faculty of the School of Nursing express their appreciation for this change.

RUTH SLEEPER, R.N.
Director of the School of Nursing and Nursing Service

Report of the Social Service Department

WITH retirement effective December 31, 1964 one has a tendency in writing a last annual report to look back over the span of thirty-eight years and review changes as well as record the events of the past year.

In 1926 the Social Service professional staff numbered 18 full-time and two part-time workers. As of October, 1964, there were 35 full-time and 4 part-time social caseworkers, and 7 social work assistants. This expansion has been due to several factors. The outstanding one is the extension of social services into several newly developed hospital services such as the Baker Memorial, the Psychiatric Service, Vincent Memorial Hospital, Emergency and Overnight Wards and the Rehabilitation Unit. The largest single explosion has been in the growth of the many pronged psychiatric units, particularly in research, demonstration services and training which have been largely supported by special Federal grants.

In addition to the added hospital services there has been a constantly increasing awareness of the need for social services by doctors, nurses and administration resulting in increased use in the existing services. On the other hand there has been advance in knowledge and skill in the field of social work though there is much yet to be learned and applied in the area of social and human relations in new ways to reach people and help patients gain and maintain maximum benefit from skilled medical care. Through the years there has been an eager, imaginative and dedicated staff constantly striving for new knowledge and ways of helping people. The increased understanding and demands for Social Service seem to indicate that our guiding motto from the Dodo in *Alice in Wonderland,* "the best way to explain it is to do it", has been effective.

To look now at the year just completed, there was an increase of 561 referrals to the Department this year over last year for a total of 8,681 referrals. The largest increases were in the expanding Psychiatric Services, the private pavilions of Baker Memorial and Phillips House, the Emergency and Overnight

Wards, the Medical Wards and the Cardiac Clinic. Other services maintained an amazing steadiness in numbers of referrals.

Financial Needs The financial requirements for this large number of patients, which the staff were instrumental in meeting through public agencies and various funds, were markedly greater. A total of $58,184 was arranged for by the Department. There was $12,706 from Public Welfare departments, of which $11,964 was for transportation to and from the wards and clinics for patients unable to travel by public conveyance. The arrangement and billing for this service is a time consuming and costly procedure though a vital one in maintaining patient care. We still hope that either this service can be carried by the Public Welfare staff or that the billing can be handled by our Accounting Department on IBM machines.

Without the availability of the Edward V. Bird Trust Fund for use for discharged patients from the Hospital, we would have been greatly handicapped in helping patients and their families meet the heavy ancillary costs so important in their recovery and rehabilitation. Approximately $29,000 was made available to patients and the largest items were homemakers $6000, tuition for special training and schooling $5,684, camp for sick and handicapped children $5,068, nursing home care $3,426, and transportation $3,279. Mr. Henry Murphy and Mrs. Margaret Reardon have been most helpful in meeting these requests through the Fund and its Trust Officer. We are also indebted to the Boston Safe Deposit and Trust Company, the Ladies' Visiting Committee, and many others in helping to finance patients' care.

Services Since it is not possible to include reports from the thirty staff reports, the following have been selected for inclusion in this report.

Baker Memorial and Phillips House The private service unit suffered a real loss when Miss Dorothy Kellogg left in March, 1964, after twenty-seven years of distinguished service in the Department. Her contributions through the years in service to patients, teaching of medical students and the development of medical social ward rounds in the Medical Service are only a few highlights in her remarkable record. We miss her, but are deeply grateful that the Hospital and the Depart-

ment had the benefit of her knowledge, skill and dedication for so many years.

We were most fortunate in having Miss Elizabeth Wheeler, a former worker and supervisor, who had recently resigned as Director of Social Service at the New England Center Hospital, come to us just prior to Miss Kellogg's departure. From Miss Wheeler's report on Baker from March to October certain facts stand out. There were 296 referrals during this six months, made by 110 different doctors, about three times as many women as men, and 50% of all the patients were 65 years of age or over. "One of the most frequent situations is that of a single woman, unmarried or widowed, living alone, facing the increasing incapacity of old age and/or chronic illness and sometimes known approaching death, often with no family near at hand or left on earth to give comfort and help. Many had meager financial resources." These patients needed many specific services as well as continued support and help from the worker and doctor.

Communication with the many doctors referring patients presents a problem and often much has to be done by phone or through others. Several months ago Miss Wheeler inaugurated with administrative approval the practice of sending to each doctor for whose patient she had accepted casework responsibility a copy of the social summary placed in the medical record for his office file and use. There has been much favorable response to this innovation.

For many years workers in the private pavilion have willingly served a limited number of patients from staff doctors' private office practices. Periodically payment for this service has been raised by patients, staff and administration. There has been a constantly increasing number of requests and the staff doctors indicate they would use such service more if it could be purchased and they did not feel they were imposing on the social workers already burdened with referrals from Baker and Phillips House. A small committee representing administration, medical staff and Miss Wheeler are seriously considering this problem under Dr. Edward L. Young and the Social Service Advisory Committee.

Medical Wards Following a discouraging year, there has

been a marked increase of referrals in the Medical Ward Service. These referrals have been more for help with really involved personal social situations of patients and less for requests to "get patients out." In spite of being beset by illness and staff turnover the social workers have met the increased demands well. The refurnishing and decoration of the Bulfinch offices has done much for morale.

Cardiac Service Though a relatively small service, there has been a high proportionate increase in referrals and patients served. This was largely made possible by more available social work staff time supported under funds from the Chronic Disease Section of the Massachusetts Department of Public Health. A full-time worker, Miss Suzanne Batchelder, in addition to the part-time services of Mrs. Suzanne Deutsch, student training supervisor, has made more continued service possible.

The retirement of Dr. Edward F. Bland as Chief of the Cardiology Unit had special significance to Social Service, for through the years he has always been a staunch supporter of Social Service not only in his own special services of rheumatic fever and cardiology, but in the medical wards and on his continuing help on the Advisory Committee. He has laid a firm groundwork through the years and the service there has been outstanding. We look forward to new challenges for service under the able leadership of Dr. Edgar Haber.

After Care Planning One continuing major problem throughout the Hospital is that of adequate, appropriate after care planning for patients. While adequate nursing home and chronic hospital facilities stand out as a great, unmet need, we still must imaginatively look at all possible services in their homes and community for the aged and chronically ill. The responsibility of an acute general teaching hospital in this endeavor is great, particularly in the increasing need for bringing into the main stream of medical care the multiple private and public facilities.

Several attempts have been made this year. The on-going study of discharged patients from fracture and surgical wards by Brandeis University under the leadership of Miss Mary Shaughnessey is beginning to show interesting and valuable data.

A three-day seminar on Social Service and Nursing Homes under the auspices of the United States Public Health Service, Chronic Disease Section, was held in September in Falmouth. Miss Barbour assisted in planning the program and was one of the group leaders. About 60 professional workers from the five New England states attended. A must for the immediate future is the establishment, at Massachusetts General Hospital, of a coordinated discharge planning unit staffed by a nurse, social worker and physician. Service training and research should be built into this program.

Ida M. Cannon Memorial Fund Award Another event of significance was the visit in June 1964 of Miss Ann Kelly, the first Ida M. Cannon Memorial Fund award recipient. As newly appointed Director of the Institute of Almoners (medical social workers) in London, Miss Kelly was assisted in financing a five week observational trip to hospital social work departments and schools of social work in New York, Cleveland, St. Louis, Washington and Boston.

Educational Program The usual training of social work students in field practice continued with 14 students here from October through May from three schools of Social Work. In 1964-65, we have four doctoral students from Smith College School of Social Work which enriches our program greatly. Two are in their second year and two are beginning their first year.

Staffing There have been the usual many staff changes. Among the key changes in addition to Miss Kellogg have been Mrs. Rachel Schepkowski for five years senior worker in the Tumor Clinic, who accepted a position as supervisor of a student training unit for Boston College and Simmons College Schools of Social Work. Her dedication to this particularly important, but difficult service, was outstanding. Miss Isabel Whiting, who following retirement as Director of Social Service at the Eye and Ear Infirmary, returned to us as part-time supervisor, resigned September 30, 1964. Her skilled supervision will be greatly missed.

Mrs. Jacqueline Buck, Children's Service Worker, left to head the Social Work in the Health Service of Massachusetts

Institute of Technology. Her skill, warmth and devotion are a great loss to the Department.

The gradual transition of Miss Clark's responsibilities as Associate Chief has continued with her assumption of many aspects of the total hospital program, in preparation for her new responsibilities as Chief of Social Service as of January, 1965. Miss Mary Kearney and Miss Grace Nicholls have begun to relieve Miss Clark in the Psychiatric Services.

In closing this report, I want to express deepest gratitude to the Trustees, the Administration and Chiefs of Service, Department Heads and their staffs for the understanding and ever ready help they have given to me and the department through the years. To Dr. Edward L. Young, Chairman, and to the Social Service Advisory Committee go very special tribute and gratitude, for without their constant, constructive support and understanding we could not have attained and given the service to patients and their families.

Special mention should go to Mrs. Evelyn MacLeod, Executive Secretary of the Department, who during her 28 years has been secretary to Miss Cannon and Miss Barbour and is now preparing to help Miss Clark as she has the two previous chiefs. Her knowledge of the Hospital and the Department, and her conscientious loyalty and devotion are invaluable.

It is a priceless privilege to serve in an institution dedicated to the best in patient care and where teaching and research have their place, but only as they are focussed on improving patient care. The Hospital and the Social Service Department have a great heritage, but an even greater future. It is, therefore, with special satisfaction and confidence that I shall turn over the leadership of the Department to Miss Eleanor Clark. Under her guidance, the able and dedicated staff will reach new heights in service to Massachusetts General Hospital and its patients.

JOSEPHINE C. BARBOUR
Chief of Social Service

Report of the Dietary Department

WITH consideration for present needs, and in anticipation of the many modifications for future requirements in dietary service to patients and personnel, the Dietary Department intensified its study of new products and strengthened its in-service training program.

The purchase of equipment for some floor pantries and reconstruction in several office areas, have contributed to increased efficiency, and made it possible for the graduate staff and supervisory pesonnel to work with consultants in determining space allocations and detailed requirements for the future temporary and permanent building sites. We anticipate an entirely new concept in combining receiving practices and storage with centrally located preparation units to support a revised pattern of tray service. Many of the changes are necessary because of the expanded menu, the increased patient census, and the need for additional dining room space.

Statistics indicate an overall increase in therapeutic services but no significant new trends in diet prescription.

Miss Wilma Robinson, Dietetic Internship Liaison Director of The American Dietetic Association visited and reaccredited the Dietetic Internship. She approved the revisions made to enrich the class program and experience patterns for twenty-five interns; discussed our active representation on professional committees at state and national levels and the workshops, seminars, evening courses, and summer sessions in which we participated; reviewed the new brochure and noted with pleasure the increase in educational stipend from $395 to $510 per annum.

Much of our progress this year is a reflection of the work accomplished by newly organized staff committees for: Diet Manual Revision, Dietetic Internship Brochure; Continuing Education; Special Services; Dietetic Intern Evaluation form; In-Service Education, and so forth.

The entire department is conscious of acceleration and, as

special challenges are added to ever increasing responsibilities, we experience a pleasant sense of participation through extended professional service.

LOUISE HATCH
Director, Dietary Department and School of Dietetics

Report of the Volunteer Department

IT seems that every year provides something for which I can be most grateful. This year the excellent team work displayed by all volunteer groups and individuals has been particularly effective.

A tenth anniversary is a good time for looking back, and a glance at the following records and a reflection of the many benefits that have resulted from the ability and dedication of our fellow volunteers leads me to believe that the future role of the volunteer will continue to expand.

	Women Volunteers	*Men Volunteers*	*Total Volunteers*	*Areas Served*	*Total Hours*
1954	470	5	475	25	48,146
1964	690	57	747	35	61,025

The strategic importance of volunteer services in the hospital today is demonstrated in countless aspects. There are a wide variety of new and growing areas ranging from the chaplaincy service and recreation service to the emergency ward requiring day and evening coverage.

Recently something new was added, the Coffee Shop which opened on January 6, 1964. I wonder how many times I've heard it said, "What did we ever do without the Coffee Shop?" The professional staff and the volunteers have all given generously of their time. Now a special tribute to the large summer student group of volunteers who assisted in the Coffee Shop and whose youth, vitality, and enthusiasm gave a lift to all of us. They are also justifiably proud of the contributions they are making in other areas.

At the annual Christmas Tea given by the Trustees and the General Director honoring the volunteers, we are pleased to record the presentation of the second annual Jessie Harding Award for Volunteer Services to Mr. Henry Cotton. Mr. Cotton retired from the M.G.H. in 1959 after serving for fourteen years as a Hospital Aid in Baker Memorial. A few weeks later he returned to continue his service in Baker as a Volunteer Hos-

pital Aid three mornings a week where he has been working for the past five years.

In 1964 we reached a goal we have sought for the past three years—more men volunteers. I should like to express my personal thanks to some of the men volunteers who helped in formalizing this service: Colonel George Goethals assisted the Nursing Administration Service; Mr. Frederick Thornton, Blood Bank; Mr. Samuel Lehrer, Recreation Service; Mr. Thatcher Luquer, Chaplaincy Service; Mr. Albert Evans, Information Service; Mr. Charles Heard, Emergency Ward, and Mr. Henry Cotton, Hospital Aid. We are sorry to report the death of Mr. Joseph Tuch who made such a fine contribution in the Pharmacy Department. During the year, the number of student volunteers also has increased; ten additional schools were represented bringing the total to twenty-two.

We are pleased to record that sixteen men and ninety-five women were awarded the American Hospital Association Volunteer Service Pin. Volunteers have assisted on special services, such as the MGH Medical Station at Logan International Airport; micro-filming the Nursing School graduate file; and most recently a pilot study for day and evening volunteer service in the Emergency Ward.

I do wish that space would permit me to acknowledge by name every individual whose efforts and loyalty have contributed to the successes we have achieved these past ten years. As always, we are eternally grateful to the Advisory Committee and to Dr. Chester M. Jones, Chairman, for his tireless energy devoted to this task.

Our four week graduate course for Directors of Hospital Volunteers again was conducted this Fall, with an enrollment of six students as follows: Mr. Robert W. Baldwin, Assistant Director of Volunteers, Soldiers' Home, Chelsea, Massachusetts; Mrs. Shirley F. Bechtel, Director of Volunteers, Children's Memorial Hospital, Chicago, Illinois; Miss Roberta L. Gallagher, Director of Volunteers, Rhode Island Hospital, Providence, Rhode Island; Mrs. Genevieve E. Cormack, Editorial Assistant, Division of Engineering and Applied Physics, Harvard University; Mrs. Mary C. Marple, Hospital Volunteer

Service, Board Member of Boston Wellesley College Club; Mrs. Sandra B. Meshorer, teacher of the blind, St. Paul's Rehabilitation Center, Newton. The combination this year of having three students already employed as Directors of Hospital Volunteers and three prospective directors made for a stimulating and informative educational experience for all of us. It is interesting to note that all of the fourteen students certified since 1961, the year the course was introduced, were representatives of small or medium sized hospitals. They have come from Connecticut, Illinois, Minnesota, New York, Rhode Island and Vermont, as well as from Massachusetts. A feature article on the course and photographs appeared in *Hospital Topics,* the news magazine for hospitals. Publicity and pictures also appeared in the local newspapers of the students, and an excellent article containing a detailed description of the course was published in several Boston papers. We all take particular pride in being the first and only hospital in the country offering a course of this type.

Yes, we have grown substantially, and as we experience the impact of growth and change upon our service we see at least three avenues of future growth. First through the organization of a men's committee, second our continuing work in developing volunteers to assume leadership responsibilities on a greater scale, and lastly our entry into the educational program through the leadership training course for Directors of Hospital Volunteers. We are hopeful that in reaching these new heights through team action, the goal of high standards of hospital and health care will become more of a reality.

MARY RUTH WOLF
Director
Volunteer Department

Report of the Treadwell Library

FOR the second time during my tenure as Librarian of the Treadwell Library, it is my pleasant duty to report major improvements in the physical plant and equipment of the Library.

In May and June, 1964, fluorescent lighting was installed in all of the stack areas in the Reading Room. This has resulted in uniform illumination of the book stacks and is a great improvement over the old incandescent lighting. In July the new Reference Room adjacent to the Smoking Room was completed. Its white, acoustical board ceiling, uniform lighting provided by fluorescent lights, fawn biege walls and book stacks, walnut furniture and stack end panels, dark green wall-to-wall carpeting, off-white shades and draperies which repeat the biege and green of the walls and carpeting, with a touch of rose, add up to a very pleasant and quiet place in which to work. Three water colors complete the decoration, and, incidentally, repeat the color scheme. The paintings, all by retired, but still very active Massachusetts General Hospital Staff members, are: *Arizona Sunset* by Stanley Cobb, Feb. 1936; *Pink Ladyslipper* (Cypripedium acaule) by Dr. Louis Dienes, July 1964; and *Brant Point Lighthouse* by Dr. James Howard Means, 1946. Two of them had hung in the Library work room for many years and it is appropriate that they be in a more public area for all to enjoy.

Since moving all of the abstract and index serials and reference books into the Reference Room left a great many empty spaces in the stacks, the entire book and journal collection was moved. This was, also, the logical time to weed the book collection and to rearrange it. The Smoking Room is no longer large enough to hold the latest ten years of the monographs and, so, it was decided to make no date division in the shelving of these publications. The book cases between and under the windows, the book stack nearest the stairway, and the Smoking Room are now used for shelving the entire book collection that is accessible to the public. Each case, stack, and section of the

Smoking Room is appropriately labeled with the classifications numbers of the books shelved there. A continuous program of withdrawing older editions and out-of-date publications will keep the books collection current. Publications, in all editions, by Massachusetts General Hospital authors and editors will be kept and the older editions will be shelved in the vault as part of a program to collect in one place as many books written, or edited, by Hospital staff as is possible.

Meetings attended by the Librarian included the New England Regional Group of the Medical Library Association in Providence, R. I., on October 11, 1963, as part of the centennial celebration of the Rhode Island Hospital; the cornerstone laying ceremonies at the Francis A. Countway Library, Harvard Medical School, on May 12, 1964; the annual meeting of the Medical Library Association in San Francisco, May 30 through June 5, 1964 when Miss Cole became Chairman of the Subcommittee on Recruitment and a member of the Joint Committee on Library Work as a Career; and the annual convention of the Special Libraries Association in St. Louis, Missouri, from June 7 through 12, 1964.

The Boston Medical Librarians Council met several times during the year to formulate plans for the 1966 meeting of the Medical Library Association in Boston. Miss Cole was appointed Chairman of the Publicity Committee for this meeting. In addition there have been discussions of the impact of the new Francis A. Countway Library on other medical libraries in the Boston area, photocopying and copyright, interlibrary loan problems, and other mutual problems of Council member libraries.

Visitors to the Treadwell Library during the year included Miss Margaret Anne Gillett, Medical Library of Western Australia, Perth, W. Australia; a group of six Deputy Librarians from hospitals in Great Britain who were here on tour of special libraries in Eastern United States; Miss E. Muriel Evans, Deputy Librarian, Royal Society of Medicine, London; Mr. Irwin H. Pizer, Librarian, State University of New York Upstate Medical Center, Syracuse, N. Y.; and Said Issa Hofyany, Medical Librarian, University of Kabul, Afghanistan.

Libraries visited by the Librarian included those of the San Francisco Medical Center, San Francisco, Calif.; Stanford University, Palo Alto, Calif.; St. Louis University (Pope Pius XII) St. Louis; Kantonsspital, Zurich, Switzerland; and the Dijkzigt Hospital, Rotterdam, The Netherlands.

Staff changes included the resignation of Miss Rachael E. McLaughlin in June and of Miss Judy Luxford in July. They were replaced by Mrs. Helen Compton Nemer and Miss Sara Jane Nutter, respectively. Part-time clerical help was provided by Richard G. Burton, the Misses Ann Baker, Tehrie Holden, John McCormick, the Misses Shirley McMahon, Patricia Mark, Kay Reinhardt, Mrs. Louise Soule and Vincent Talbot. During the summer Richard G. Burton worked full-time in order to help with the moving of the collection.

Mrs. Hiram N. Crowell has continued to volunteer for one day a week. Miss H. Bernice Sweeney has spent a half day a week working on the Staff Publications. During the year the seven volumes of reprints for the year 1953 were indexed and bound. Also, cards were typed for the author index for these volumes. The reprints for 1954 are indexed and are about ready to go to the bindery. These will become a permanent part of the record of work done by Massachusetts General Hospital Staff members and will be shelved in the vault.

My special thanks go to each member of the Treadwell Library Committee for giving so generously of his time and counsel throughout the year. Also, they join me in extending our gratitude for the cooperation received from all members of the Staff while the remodeling and redecorating was in progress. Mr. Carleton N. Goff and his staff were especially helpful during this period.

The many gifts to the Library from various institutions and individuals are much appreciated. A list of the donors is kept on file in the Library.

The statistics which follow indicate that there has been an increase in all activities reported except in the number of photocopies received from the National Library of Medicine. The number of pages photocopied in the Treadwell Library increased by 10,000 over 1964, and the number of items given

away increased by about 3000. Also, 2000 more reader visits were recorded for 1964, making an all-time high of 36,336. Once more no attempt was made to record the number of telephone calls received or the number of reference questions answered. Potential users of the Library, exclusive of medical students, postgraduate course enrollees, and Massachusetts General Hospital student nurses, numbered more than 1,200 individuals. Evening hours, Monday through Friday, were extended to 11 P.M.

	1963	*1964*
Number of periodical volumes	15,447	16,451
Number of other volumes	10,609	10,732
Number of pamphlets (approximate)	2,500	2,600
Number of photocopies received from the National Library of Medicine	208	193
Number of pages photocopies in Treadwell	64,010	74,516
Number of items given away to individuals or medical libraries (approximate)	827	3,738
Number of periodicals currently received	560*	565†
Number of volumes loaned (books and duplicate bound periodicals)	3,579	3,724
Number of unbound periodicals loaned	912	1,105
Total loans	4,491	4,829
Number of items borrowed from other libraries	1,413‡	1,493‡
Number of items loaned to other libraries	135‡	213‡
Number of persons using the library during the day	28,943	30,418
Number of persons using the library during the evening	5,740	5,918
Total number using the library	34,683	36,336

*Includes 386 purchased, 116 gifts and 58 annuals.
†Includes 398 purchased, 104 gifts and 63 annuals.
‡Includes Xerox copies sent in lieu of original for periodical articles of 10 pages or less.

GENEVIEVE COLE, *Librarian*
Treadwell Library

Dalton Scholarships

THE income of this fund, amounting to $1,000 annually, is devoted to investigation in the science of medicine. The rules of the Trustees applicable to it are as follows:

ARTICLE 1. Candidates shall be nominated to the Board of Trustees by the General Executive Committee with their recommendations. They shall be either interns of the General Hospital or graduates of a regular American medical college.

ARTICLE 2. The nature of the work in medical investigation proposed to be prosecuted by each candidate shall be designated by the candidate.

ARTICLE 3. The dates of beginning and ending scholarships, the amounts of the stipends and the conditions of work shall in each case be recommended by the General Executive Committee to the Board of Trustees.

ARTICLE 4. The results of work of scholars shall appertain to the Hospital, and when made public the name of the scholar shall accompany the publication, but no publication shall be made unless approved by the General Executive Committee.

ARTICLE 5. When the income is insufficient, appointments for the year may be omitted.

ARTICLE 6. Any income not used shall be cumulative and not added to the principal.

ARTICLE 7. Scholars shall be eligible for renomination and reappointment.

Further information may be had by applying to the General Director of the Massachusetts General Hospital.

Warren Triennial Prize

THE Warren Triennial Prize was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the author of the best dissertation considered worthy of a premium on some subject in Physiology, Surgery, or Pathological Anatomy, the arbitrators being the General Executive Committee of the Massachusetts General Hospital.

In 1965 the prize will be awarded in the form of a lectureship at the Massachusetts General Hospital. The Warren Prize Lecturer, selected for outstanding work in medical science, will be nominated to the Trustees by the General Executive Committee.

The submission of special theses or essays will no longer be required for this competitive prize.

JOHN H. KNOWLES, M.D.
General Director

Statistical and Comparative Tables

Statistical and Comparative Tables

TOTAL EXPENSES

	Service	Out-Patient Department	Private	Semi-Private	Miscellaneous	Total
1955.....	3,575,242.	1,008,501.	1,042,335.	2,512,596.	3,473,377.	11,612,051.
1956.....	4,261,912.	1,158,356.	1,203,094.	2,770,015.	3,690,189.	13,083,566.
1957.....	4,476,986.	1,334,795.	1,304,260.	2,934,279.	4,518,960.	14,569,280.
1958.....	5,375,433.	1,483,044.	1,523,384.	3,406,112.	2,378,576.*	14,166,549.
1959.....	5,575,972.	1,605,612.	1,666,735.	3,714,185.	2,794,412.*	15,356,916.
1960.....	6,052,617.	1,739,500.	1,770,265.	4,155,916.	3,501,466.*	17,219,764.
1961.....	5,968,122.	1,701,771.	2,004,181.	4,301,078.	4,247,635.*	18,222,787.
1962.....	7,076,629.	1,889,216.	2,184,933.	4,822,094.	4,781,332.*	20,754,204.
1963.....	7,872,987.	2,068,936.	2,366,081.	5,185,708.	5,394,943.*	22,888,655.
1964**....	8,333,040.	2,185,695.	2,199,693.	6,414,292.	5,804,430.*	24,937,150.

TOTAL NET EARNINGS

1955.....	2,357,868.	645,829.	1,235,431.	2,718,253.	1,700,183.	8,657,564.
1956.....	2,900,094.	659,737.	1,434,467.	2,966,123.	1,762,277.	9,722,698.
1957.....	2,927,985.	792,358.	1,523,634.	3,423,917.	2,155,307.	10,823,201.
1958.....	3,570,656.	864,742.	1,790,032.	3,897,908.	2,401,304.	12,524,642.
1959.....	3,837,852.	856,443.	1,976,648.	4,508,186.	2,660,813.	13,839,942.
1960.....	4,023,076.	954,376.	2,312,042.	5,012,325.	2,971,008.	15,272,827.
1961.....	4,660,384.	1,032,484.	2,725,019.	5,204,960.	3,385,425.	17,008,272.
1962.....	5,627,922.	1,129,728.	2,870,807.	5,677,968.	3,861,606.	19,168,031.
1963.....	6,104,147.	1,263,055.	3,165,594.	6,392,908.	4,381,790.	21,307,494.
1964**....	6,362,765.	1,181,489.	2,775,466.	7,524,485.	5,265,908.	23,110,113.

* Research Funds excluded.

**36 Beds Transferred from Private to Semi-Private.

COMBINED CLINICS

	New Cases	Total Number of Visits	Daily Average	Total Number Prescriptions Filled
1955	14,577	187,747	622—	126,067
1956	13,079	186,517	618—	127,885
1957	13,173	211,205*	699+	129,179
1958	12,283	216,216*	716—	129,622
1959	12,491	225,256*	746	133,103
1960	12,442	225,456*	732	139,472
1961	11,996	206,395*	683	136,676
1962	12,336	204,583*	674	151,915
1963	11,736	201,415*	665	151,734
1964	11,762	205,991*	682	141,872

	Cost of Combined O. P. D.	Aver. Cost per Visit in Comb. Depts.	Total Net Receipts	Aver. Net Receipts	M. G. H. Share of Cost	MGH Share of Net Receipts
1955	1,088,976	5.80	685,386	3.65	889,033	527,948
1956	1,243,689	6.67	673,815	3.61	1,022,144	525,917
1957	1,420,258	6.72	806,433	3.82	1,191,370	651,397
1958	1,565,229	7.24	868,250	4.02	1,327,536	710,984
1959	1,704,172	7.57	917,333	4.07	1,454,023	707,470
1960	1,868,276	8.29	1,042,143	4.62	1,592,537	809,164
1961	1,836,817	8.90	1,115,399	5.40	1,543,860	878,732
1962	2,108,132	10.30	1,265,340	6.18	1,753,524	975,063
1963	2,275,392	11.30	1,433,034	7.11	1,912,033	1,108,820
1964	2,419,666	11.75	1,504,526	7.30	2,037,013	1,181,489

EMERGENCY WARD

	No. of Patients Treated	Routine Cost	Ancillary Cost	Total Cost	Total Net Receipts
1962	42,792	358,931	153,075	512,006	261,003
1963	47,191	415,352	171,567	586,919	303,040
1964	53,017	451,981	215,045	667,026	362,896

*Includes Staff and Other — See page 151.

MASSACHUSETTS GENERAL HOSPITAL

Income and Expense Statement

General Fund

Operating Income	*1964*	*1963*
Private Patients	$ 2,877,730*	$ 3,220,223
Semi-Private Patients	8,370,114	6,815,082
Ward Patients	8,935,163	8,386,912
Out-Patient Department	1,669,092	1,418.295
Private Ambulatory	866.119	743,154
Emergency Ward	534,975	424,707
Total Earnings from Services to Patients	23,253,193	21,008,373
Less: Deductions from Earnings		
Charity Allowance	1,711,693	1,725,725
Other Rebates and Losses	2,513,530	1,599,764
Net Provisions for Doubtful Accounts	104,756	71,745
Total Deductions from Earnings	4,329,979	3,397,234
Net Earnings from Service to Patients	18,923,214	17,611,139
Other Income	4,186,899	3,696,355
Total Income	23,110,113	21,307,494
Operating Expenses		
In-Patients	16,947,025	15,424,776
Out-Patients	2,037,013	1,912,033
Private Ambulatory	689,088	636,257
Emergency Ward	667,026	586,919
Total Patient Expenses	20,340,152	18,559,985
Add: Other Expenses (Including Indirect Cost of Research)	4,596,998	4,328,670
Total Expenses	24,937,150	22,888,655
Net Deficit	1,827,037	1,581,161
Available from Treasurer for Expenses at Hospital	1,633,385	1,557,245
Final Deficit—Withdrawn from General Fund Principal	193,652	23,916

*36 Beds transferred from Private to Semi-Private.

MASSACHUSETTS GENERAL HOSPITAL

Statement of Special Fund Expenditures

	1964		1963	
Research Fund Expenditures				
Contract				
Salaries and Wages	$ 145,441.51		$ 132,903.18	
Supplies and Expenses	240,575.05	$ 386,016.56	209,474.06	$ 342,377.24
Gifts and Grants				
Salaries and Wages	3,592,225.74		3,111,430.00	
Supplies and Expenses	3,426,003.51		3,544,754.48	
	7,018,229.25	7,018,229.25	6,656,184.48	6,656,184.48
Miscellaneous Income	39,143.48		452,826.34	
Net Expenses	$6,979,085.77		$6,203,358.14	
Other Fund Expenditures				
Contract				
Salaries and Wages	$ 329,594.90		$ 290,964.71	
Supplies and Expenses	597,420.15	927,015.05	515,756.84	806,721.55
Other Special Purpose Funds				
Salaries and Wages	342,121.64		212,556.29	
Supplies and Expenses	477,922.27		377,176.66	
	820,043.91	820,043.91	589,732.95	589,732.95
Miscellaneous Income	489,637.94		322,365.77	
Net Expenses	$ 330,405.97		$ 267,367.18	
MGH Surgical Associates				
Salaries and Wages	$ 773,371.93		$ 709,617.82	
Supplies and Expenses	297,294.83		232,744.93	
	$1,070,666.76	1,070,666.76	$ 942,362.75	942,362.75
Total Fund Expenditures		$10,221,971.53		$9,337,378.97

MASSACHUSETTS GENERAL HOSPITAL

STATEMENT OF STOCK ON HAND SEPTEMBER 30, 1964 AND SEPTEMBER 30, 1963

	Sept. 30 1964	*Sept. 30 1963*
General Hospital Apothecary Out-Patient Department Apothecary	$296,737.87	$290,960.54
General Hospital Upper Store	190,753.54	185,336.23
General Hospital Lower Store	12,756.87	19,113.98
General Hospital Maintenance	78,309.49	69,771.53
General Hospital Postage	1,627.95	843.22
General Hospital Print Shop	5,405.77	3,916.32
Other	395,304.13	388,916.81
Total Stock on Hand	$980,895.62	$958,858.63

SERVICE IN-PATIENT STATISTICS
For the Years 1955-1964

	No. Patients Admitted	Average No. of Patients Per Day	No. of Beds Available	Percentage of Beds Occupied	Patient Days	Average Stay in Hospital	Number of Operations	Deaths		
								Total Number	% of Admissions	Autopsies
1955	11,586	389	461	84.3	141,585	12+	6,868	680	5.86	69%
1956	11,083	387	436	91.8	141,231	13—	7,225	671	6.04	66%
1957	11,734	367	454	83.1	133,521	12—	7,745	778	6.63	67%
1958	11,890	388	454	86.9	141,371	12—	6,991	866	7.28	64%
1959	11,954	390	454	86	142,097	12—	7,098	784	6.56	67%
1960	11,547	361	459	78.7	134,047	11+	7,015	843	7.30	63%
1961	11,607	381	459	83	138,687	12—	7,613	784	6.75	68%
1962	13,598	408	465	78	148,424	11—	7,667	934	6.87	66%
1963	14,461	413	501	82	150,650	10+	8,353	982	6.79	62%
1964	13,850	408	508	80	149,458	11—	8,546	874	6.31	62%

Total number of patients admitted to General Hospital from the year 1821 — 626,779.

Private pediatric patients included in service category since 1962.

SEMI-PRIVATE IN-PATIENT STATISTICS
For the Years 1955-1964

1955	8,390	264	314	84.7	96,211	11+	4,588	243	2.89	58%
1956	8,651	281	334	82.3	102,484	12—	4,887	221	2.55	69%
1957	9,086	282	338	80.4	102,738	11+	4,954	268	2.94	63%
1958	9,296	292	311	91.2	106,450	11+	4,851	279	3.00	68%
1959	10,105	309	339	91.1	112,351	10+	4,215	316	3.13	57%
1960	10,546	321	340	94.4	119,167	11+	5,359	354	3.36	67%
1961	10,689	334	340	98.4	116,932	11+	5,459	369	3.45	69%
1962	9,714	328	330	99	119,486	12+	6,075	384	3.95	71%
1963	9,934	347	336	103	126,525	13—	6,229	404	4.07	77%
1964	10,041	358	338	106	131,094	13—	6,831	393	3.91	75%

Total number of patients admitted to Baker Memorial from the year 1930 — 243,858.

PRIVATE IN-PATIENT STATISTICS
For the Years 1955-1964

1955	2,607	88	103	84.9	32,266	11+	1,153	74	2.74	72%
1956	2,940	101	103	93.2	36,938	12+	1,251	80	2.75	73%
1957	2,878	101	115	88.5	36,909	12+	1,386	75	2.96	69%
1958	3,053	100	122	77.7	36,396	12+	1,192	93	3.05	83%
1959	3,275	115	134	85.7	41,784	12—	1,366	93	2.84	69%
1960	3,517	110	132	83.6	40,924	12—	1,487	100	2.84	70%
1961	3,803	118	159	74.1	42,429	11+	1,467	115	3.02	73%
1962	4,274	129	170	76	46,996	11—	1,556	122	2.85	70%
1963	4,407	148	162	91	54,047	12+	1,612	121	2.75	65%
1964	4,716	158	168	94	57,692	12+	1,684	153	3.24	66%

Total number of patients admitted to Phillips House from the year 1917 — 124,401.

COMBINED M.G.H AND EYE & EAR CLINICS

	New Patients		Subsequent Visits		Staff & Other	
	1964	*1963*	*1964*	*1963*	*1964*	*1963*
Admitting Physiican	684	655	1,762	1,636	2	1
Medicine	492	449	19,345	20,241	723	99
Alcohol	65	60	1,535	1,359	1,770	490
Allergy	9	7	4,420	4,656	551	622
Hematology	4	1	669	607	24	1
Arthritis	2	34	1,269	1,129	12	13
Diabetes	3	3	2,887	2,593	31	64
Gastro-Intestinal	4	4	1,077	1,041	2	2
Cardiac	17	21	1,081	959	7	9
Hypertension	—	2	810	854	2	6
Nutrition	—	5	1,865	210	325	220
Ovarian Dysfunction	11	1	89	79	27	19
Podiatry	6	2	1,450	1,323	272	233
Pulmonary	4	2	406	428	19	17
Rheumatic Fever	5	2	382	462	—	2
Thyroid	—	—	1,854	2,030	1,786	2,266
Dermatology	570	537	5,638	5,985	1,231	1,691
Syphilis	78	96	778	911	620	448
Neurology	50	15	5,415	5,338	1,106	821
Language	2	—	4,625	5,560	12	7
Psychiatry	279	478	5,990	5,162	2,317	2,097
Child Psychiatry	7	23	2,047	1,946	2	2
Children's Medicine	797	701	3,227	3,491	3,862	3,297
Adolescent Endocrine	26	22	899	828	9	24
Surgery	269	295	11,964	12,137	679	745
Amputation Clinic	17	23	229	235	—	1
Amputation Rounds	38	31	212	207	3	—
Fracture	8	3	4,078	3,696	156	109
Hand	11	14	174	276	12	11
Plastic Surgery	5	3	710	472	30	5
Neurosurgical	1	—	172	—	—	—
Vascular Surgery	5	2	698	554	6	4
Gynecology	176	142	3,542	3,612	352	351
Orthopedic Surgery	280	318	6,098	5,751	483	482
Infantile	—	—	—	—	—	—
Scoliosis	—	—	—	—	—	—
Urology	171	146	4,961	4,737	267	247
Stone	—	—	—	—	—	—
Dentistry	400	352	2,672	2,526	1,095	1,049
Tumor	157	137	7,750	7,601	84	107
Rehabilitation	—	9	218	343	—	1
General Hospital Clinics	4,653	4,595	112,998	110,975	17,879	15,563
General Hospital Totals	4,653	4,595	112,998	110,975	17,879	15,563
Ear, Nose and Throat	2,685	2,602	17,491	17,227	878	970
Eye	4,424	4,539	42,250	42,670	2,733	2,274
Eye & Ear Infirmary Totals	7,109	7,141	59,741	59,897	3,611	3,244
Combined Out-Patient Department Totals	11,762	11,736	172,739	170,872	21,490	18,807

	1964	*1963*
Total Attendance	205,991	201,415

RADIOLOGICAL DEPARTMENT

General Hospital	*1964*	*1963*
House Patients Examined	20,589	23,139
Out-Patient Department patients examined	13,293	11,376
Emergency Ward patients examined	9,170	14,606
Staff patients examined	2,648	3,072
Total number patients examined	45,700	52,193
X-Ray treatments given (Inc. Baker & Phillips House)	*27,721	*24,921
Number of examinations	61,787	72,536
Total number of examinations and treatments	89,508	97,457
Emergency Ward Unit		
Patients examined	10,316	—
Total number of patients examined	10,316	—
Number of examinations	14,742	—
Total number of examinations	14,742	—
Phillips House		
House patients examined	6,445	6,000
Total number of patients examined	6,445	6,000
Number of examinations	9,511	8,993
Total number of examinations	9,511	8,993
Baker Memorial		
House patients examined	18,646	16,856
Private patients examined	12,278	14,217
Total number patients examined	30,924	31,073
Number of examinations	41,922	43,113
Total number of examinations	41,922	43,113
Entire Hospital (Combined Statistics)		
Total number patients examined	93,385	89,266
Total number patients treated	1,735	1,567
Total number patients examined and treated	95,120	90,833
Total number examinations	127,962	124,642
Total number treatments and observations	27,542	24,755
Total number of radium & isotopes treatments	179	166
Total number examinations, treatments and observations, radium & isotopes	155,683	149,563

*Includes 166 Radium & Isotope cases
†Includes 179 Radium & Isotope cases

PHYSICAL MEDICINE DEPARTMENT

Physical Therapy

Treatments given:	*1964*	*1963*
Out-Patient Department	2,622	2,177
General Hospital (including Eye and Ear Infirmary)	11,937	10,932
Phillips House	2,645	2,396
Baker Memorial	6,831	6,808
Private ambulatory patients	7,874	7,258
Total treatments given	31,909	29,571

NURSING DEPARTMENT

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Average No. of Graduates on General Hospital Staff	187	194	190	254	249	260	253	257	302	312
Average No. of Graduates on School of Nursing Staff	42	41	44	46	48	49	48	50	50	53
Average No. of Graduates on Baker Memorial Staff	60	58	60	78	75	70	73	81	87	93
Average No. of Graduates on Phillips House Staff	55	58	62	76	83	84	85	86	97	94
Average No. of Students	286	279	267	296	314	237	348	339	340	351
Average Total	625	698	697	827	834	829	807	938	876	903
Total No. of Students Admitted	139	125	186	135	134	148	134	147	164	154
Students Dropped and Resigned	21	12	14	6	1 5	16	39	28	43	42
Average No. of Graduates on General Hospital Staff—*Part time	11	20	17	18	12	12	13	18	16	14
Average No. of Graduates on Baker Memorial Staff—*Part time	8	10	5	5	7	13	13	14	1 4	16
Average No. of Graduates on Phillips House Staff—*Part time	9	9	11	5	6	6	8	17	16	18
Total *Part time graduates	28	39	33	28	25	31	34	49	46	48

*Part time nurses expressed in equivalent of full time.

Report of the Treasurer

In accordance with Article 5 of the By-Laws, the Annual Report of the Treasurer for the fiscal year ending September 30, 1964, approved by Patterson, Teele & Dennis, Auditors, is respectfully submitted.

THE MASSACHUSETTS GENERAL HOSPITAL
CONDENSED YEAR-END BALANCE SHEET

	Sept. 30, 1964	*Sept. 30, 1963*
ASSETS		
CASH	$ 4,552,674.43	$ 2,562,062.27
INVESTMENTS		
Bonds	22,584,338.92	19,454,036.00
Stocks	21,227,949.22	19,789,660.53
Notes and Commercial Paper	1,802,549.83	1,961,635.96
Real Estate	170,820.86	170,820.86
ACCOUNTS RECEIVABLE — PATIENTS AND OTHERS (Less Allowance for Doubtful Accounts)	6,339,285.34	6,218,606.34
NOTES RECEIVABLE	640,703.18	681,262.84
INVENTORY OF SUPPLIES — AT ESTIMATED COST	1,040,324.48	1,022,836.97
PREPAID ITEMS	73,950.09	64,847.52
INTEREST IN UNSETTLED ESTATES, ETC.	10.00	10.00
PLANT — Less Depreciation	24,970,484.06	23,863,506.78
CONSTRUCTION IN PROGRESS	1,945,538.11	1,978,969.57
TOTAL	$85,348,628.52	$77,768,255.64
LIABILITIES		
ACCOUNTS PAYABLE AND ACCRUALS	$ 1,560,586.74	$ 1,383,756.55
PENSION RESERVES	633,997.35	532,625.30
W.C.A. AND REPAIR RESERVES	201,358.11	150,568.43
GENERAL FUND		
Treasurer's Account	1,306,125.41	598,476.70
Director's Account	5,794,184.77	5,296,923.28
GENERAL HOSPITAL ENDOWMENT FUNDS		
Unrestricted as to Income	5,280,662.00	5,180,086.90
Restricted as to Income	18,563,523.24	18,093,435.65
McLEAN HOSPITAL FUNDS		
General Fund		
Treasurer's Account	22,490.68	(908,720.25)
Director's Account	628,882.58	827,516.54
Endowment Funds	784,428.96	1,798,601.18
BUILDING FUNDS	6,435,478.01	3,190,907.96
FIDUCIARY FUNDS	586,469.03	562,531.68
FUNDS INVESTED IN PLANT	24,970,484.06	23,863,506.78
TEMPORARY FUNDS		
General Hospital	5,839,269.96	5,899,277.41
McLean Hospital	283,136.60	338,014.08
Fiduciary	14,585.23	11,823.48
GENERAL INVESTMENT PROFIT AND LOSS ACCOUNT	12,442,965.79	10,948,923.97
TOTAL	$85,348,628.52	$77,768,255.64

THE MASSACHUSETTS GENERAL HOSPITAL

GENERAL HOSPITAL

CONDENSED INCOME STATEMENT

(For fiscal year ending September 30)

	1963-64	*1962-63*
TREASURER'S RECEIPTS		
GIFTS		
Unrestricted	$ 195,018.00	$ 191,890.00
Annual Free Beds	1,200.00	5,314.63
Restricted	9,107,955.59	5,883,618.28
	$ 9,304,173.59*	$ 6,080,822.91*
INCOME FROM INVESTMENTS		
Unrestricted	$ 398,778.42	$ 377,567.02
Restricted	1,346,695.57	1,329,081.60
	$ 1,745,473.99	$ 1,706,648.62
OTHER INCOME		
From Trusts and Agents	$ '13,254.29	$ 12,512.87
Contributions for Connecting Building ..	11,336.00	11,498.00
Huntington Memorial Hospital	27,404.73	25,759.78
Miscellaneous	1,412,188.22	1,352,682.66
	$ 1,464,183.24	$ 1,402,453.31
TOTAL	$12,513,830.82	$ 9,189,924.84
RESTRICTED INCOME NOT APPLIED	(60,007.45)	40,539.02
	$12,573,838.27	$ 9,149,385.82
PAYMENTS FROM INCOME		
Added to Principal	$ 27,913.63	$ 52,726.67
Treasurer's Payments From Funds and Miscellaneous	2,532,381.56	126,325.67
	$ 2,560,295.19	$ 179,052.34
TREASURER'S BALANCE AVAILABLE FOR EXPENSES AT HOSPITAL	$10,013,543.08	$ 8,970,333.48
HOSPITAL EXCESS OF EXPENSES	10,207,195.03	8,994,249.58
DEFICIT—WITHDRAWN FROM GENERAL FUND PRINCIPAL	$ 193,651.95	$ 23,916.10

* Includes Community Fund Allocation of $195,350.00 for 1963-64, and $184,155.00 for 1962-63.

THE MASSACHUSETTS GENERAL HOSPITAL
McLEAN HOSPITAL
CONDENSED INCOME STATEMENT

(For fiscal year ending September 30)

	1963-64	*1962-63*
TREASURER'S RECEIPTS		
GIFTS		
Unrestricted	$ —0—	$ 236.03
Restricted	691,571.32	493,965.14
	$691,571.32	$494,201.17
INCOME FROM INVESTMENTS		
Unrestricted	$ 13,795.42	$ 13,329.69
Restricted	51,859.65	50,422.94
	$ 65,655.07	$ 63,752.63
OTHER INCOME		
From Trusts and Agents	$ 6,175.00	$ 5,975.00
Miscellaneous	19,631.80	5,979.79
	$ 25,806.80	$ 11,954.79
TOTAL	$783,033.19	$569,908.59
RESTRICTED INCOME NOT APPLIED	(54,877.48)	(20,645.22)
	$837,910.67	$590,553.81
PAYMENTS FROM INCOME		
Added to Principal	$ 894.35	$ 744.08
Expenses Paid from Funds and Miscellaneous	$ —0—	8,484.49
	$ 894.35	$ 9,228.57
TREASURER'S NET RECEIPTS	$837,016.32	$581,325.24
HOSPITAL EXCESS OF EXPENSES	774,250.83	578,830.18
SURPLUS	$ 62,765.49	$ 2,495.06

GENERAL FUND

FOR ANY HOSPITAL PURPOSE	$1,306,125.41

GENERAL HOSPITAL FUNDS

	Principal
FLORENCE M. AGOOS MEMORIAL FUND For developing and furthering medical research and scientific medical knowledge through research and teaching. Bequest of Solomon Agoos	$10,000.00
THE FULLER ALBRIGHT FELLOWSHIP FUND ..... Income to support a senior Fellowship in the Neurology Service.	11,362.28
PHILIP R. AND ANNE L. ALLEN ENDOWMENT FUND ..... Income for any Hospital Purpose.	80,283.00
THE LARZ ANDERSON FUND ..... For the benefit of the Arthritic Outpatient Department.	78,241.32
ANESTHESIA FUND ..... Income to be used to supply laboratory facilities or such other advantages as the Trustees may determine for the Chief of the Anesthesia Department.	89,845.05
MARTHA B. ANGELL FUND ..... For medical and surgical experimentation on animals to the end of saving human lives.	34,040.82
ARCHIVES, PICTURES AND HISTORICAL RELICS FUND ..... "The income of which shall be used for the continuous and better care of hospital archives, pictures and historical relics pertaining to both the General Hospital and the McLean Hospital."	8,147.25
JOHN ASHTON FUND ..... For diseased and wounded soldiers.	33,965.05
THE JOSEPH C. AUB FUND ..... Income to be spent for Cancer Investigation.	22,450.66
BAKER MEMORIAL FUND ..... For the Baker Memorial. Sundry Bequests.	108,468.61

GENERAL HOSPITAL FUNDS (Continued)

	Principal
BAKER MEMORIAL ASSISTANCE FUND ..... Income to help pay the hospital expenses of such individual patients of small means as are believed to have incurred hospital expenses greater than they anticipated at the time of entering the Hospital,—but not limited to such cases. Disbursements to be made on recommendation of staff member in charge of patient approved by Committee designated in will. Income may also be used to purchase apparatus suitable for handling fractures and operations.	$ 7,921.20
LILLIAN DOBIE BALBONI MEMORIAL FUND Income for a Free Bed or for any other purpose the Trustees of the Hospital may think best.	38,202.37
ARTHUR W. BLAKE FUND ..... Income for the study and cure of nervous diseases.	25,000.00
THE EDWARD F. BLAND FUND ..... Income to be used for the furtherance of cardiac research and related activities.	97,948.57
GEORGE WASHINGTON WALES BREWSTER MEMORIAL FUND ..... Income for any Hospital purpose.	6,289.02
ANNIE BOLTON MATTHEWS BRYANT FUND ..... Income for the benefit of people with moderate means for the establishment of free beds if the management believes it advisable, otherwise for general use.	72,093.70
ARTHUR TRACY CABOT FUND ..... Income for support of laboratories.	20,000.00
RICHARD C. CABOT FUND ..... For educational purposes in connection with the work of the Social Service Department.	50,155.02
RICHARD C. CABOT MEDICAL SOCIAL LIBRARY FUND ..... Income "to be used for the purchase of books for the Social Service Library under the direction of Chief of Social Service." Gift of American Association of Hospital Social Workers.	1,010.00
SAMUEL CABOT FUND FOR PATHOLOGICAL INVESTIGATION ..... Income for salary of Surgical Pathologist. Gift of Samuel and Dr. Arthur T. Cabot.	10,000.00
CANCER RESEARCH ENDOWMENT FUND For Research in Cancer.	334,506.64

GENERAL HOSPITAL FUNDS (Continued)

	PRINCIPAL
THE IDA M. CANNON MEMORIAL FUND Income to be spent for Social Service in medical care under the direction of the Advisory Committee to the Social Service Department.	$19,375.55
EDWIN F. CAVE TRAVELING FELLOWSHIP FUND Income for post-training travel for residents of the Orthopedic Surgery Service.	40,977.52
MASSACHUSETTS GENERAL HOSPITAL CHAPEL FUND Gifts of "Friends of the Hospital".	6,913.48
MASSACHUSETTS GENERAL HOSPITAL ENDOWMENT FUND FOR THE STUDY OF CHRONIC DISEASES Fund raised by Dr. Walter Bauer, Chief of the Medical Service and James Jackson Professor of Clinical Medicine 1951-64, income to be used for research work on chronic diseases, in the Medical Department.	850,749.83
CLINICAL LABORATORY FUND Income for Clinical Laboratory. Bequest of Mrs. Grace M. Kuhn.	10,000.00
CONNECTING BUILDING FUND Income for Connecting Building.	10,000.00
CONVALESCENT HOSPITAL FUND For the Convalescent Hospital	242,077.35
WILLIAM C. AND JESSIE B. COX SCHOLARSHIP FUND Income for scholarships and other aid for student nurses in the M.G.H. School of Nursing.	107,547.00
LORETTA JOY CUMMINS FUND For general purposes of the Hospital, but preferably for the Skin Department.	36,452.43
THE CUSHMAN FUND Income for the Social Service of the Hospital. Gift of Mrs. Charles F. Cushman.	5,000.00
MIRIAM F. AND ADELINE F. CUTTER FUND "To be used for women in illness especially the aged who have been accustomed to gentle care."	10,000.00
CAROLINE ENGSTROM DAHL FUND Income to be used for maintenance of the Research Building; principal expendable within the intent of the bequest at the discretion of the Trustees. Bequest of Mr. Richard Engstrom.	101,170.00

GENERAL HOSPITAL FUNDS (Continued)

	Principal
JOHN CALL DALTON AND EDWARD BARRY DALTON FUND Income for investigation in the science of medicine.	$35,500.00
CHESTER H. DAVIS FUND Income for "the care, maintenance and medical treatment of crippled and deformed white children between the ages of six months and ten years."	20,000.00
DR. WALTER J. DODD MEMORIAL FUND Income for X-Ray investigation.	32,270.41
THE BESSIE ROCHESTER EDWARDS MEMORIAL FUND Income for the care and treatment of men who have served or are serving in the armed forces of the United States of America. Gifts of Trustees of The Bessie Rochester Edwards Memorial Foundation ..... $55,914.20 Disabled Ex-Servicemen's Exchange, Inc. 10,250.16	66,164.36
EDWARDS MEMORIAL FUND Until such time as the Trustees of the Hospital shall direct otherwise, the income on $100,000 to be used in such manner as said Trustees may deem proper for medical or surgical research.	406,547.56
JOHN W. ELLIOT FUND Income for investigation in the science of medicine, preferably in the Surgical Department. The income may be used for other purposes in case there is no further demand in this direction.	20,114.22
ISABELLA H. ELLISON FUND Income for the general purposes of the Baker Memorial.	89,753.16
SARAH POTTER EVARTS FUND For psychiatric social work. Gifts of Mrs. Prescott Evarts and Dr. Helen W. Evarts.	1,398.42
FRANCES FAY AND ARTHUR KELSEY FAY MEMORIAL FUND Income primarily for care and treatment of persons suffering from or threatened with chronic epilepsy in cases requiring special study. Gift and bequest of James H. Fay.	25,000.00

GENERAL HOSPITAL FUNDS (Continued)

	Principal
EDITH S. AND FRANCES B. FISHER MEMORIAL FUND ..... To be used both as to principal and any income to purchase therapeutic appliances for needy crippled or deformed patients as directed by the Social Service Department.	$ 80,000.00
THE NANCY M. FRASER MEMORIAL FUND Income for scholarships to some deserving students in the School of Nursing.	5,680.00
FREE BED FUNDS ..... Income for Free Beds. Sundry Gifts and Bequests.	4,555,699.31
GENERAL SURGERY FUND ..... Income to be used for general surgery purposes under the direction of the Chief of General Surgery. Principal expendable in need.	50,996.32
MRS. JOHN CHIPMAN GRAY FUND ..... For the purchase of books in foreign languages for the use of patients.	1,000.00
ALLAN W. HAMILTON FUND ..... For medical services in the Outpatient Department.	2,027.03
ABIGAIL R. HAZELTINE FUND ..... Income unrestricted until the establishment of a cancer or incurable ward, then to the maintenance of same; principal may be applied toward a building for this purpose. Bequest of Miss Harriet S. Hazeltine.	10,000.00
THE WILLIAM HILTON FUND ..... "To be invested as a separate fund, and called 'The William Hilton Fund,' the income thereof to be applied for the support of free beds or otherwise, as the trustees shall from time to time deem best, for the poor suffering from disease or injuries"	50,053.58
CHARLES W. HOLTZER FUND ..... Income for general research work.	41,666.67
INCOME UNRESTRICTED FUNDS ..... Income for any Hospital purpose. Sundry Gifts and Bequests.	4,650,281.32
JAMES MARSH JACKSON MEMORIAL FUND Income for occupational work or for general purposes. Gift through Trustees of the James Marsh Jackson Memorial Fund.	25,797.20

GENERAL HOSPITAL FUNDS (Continued)

	Principal
THE CHESTER MORSE JONES HOUSE STAFF EDUCATIONAL FUND ..... Income only to be spent to increase the educational opportunities for the House Staff through contact with eminent men in the field of medicine either at the Hospital or away.	$ 41,168.00
DANIEL FISKE JONES MEMORIAL FUND .... Income to extend and improve the education of surgical residents and interns.	18,913.99
THE VARAZTED H. KAZANJIAN FUND For rehabilitation through plastic and reconstructive surgery.	6,000.00
CATHERINE PEIRCE KELLEY FUND ..... Income for support and maintenance of a Free Bed for Women . . . aiding those who are most in need of aid. Bequest of Miss Grace Fletcher Kelley.	44,000.00
THE JOSEPH P. KENNEDY, JR. LABORATORIES FUND ..... To bring to the Laboratories the best possible Research men with an interest in mental retardation.	500,000.00
MARGERY AMORY KETCHUM MEMORIAL FUND ..... Income only to be spent on Cancer Research u/d of Dr. Joseph C. Aub so long as he is actively connected with the Hospital; thereafter for cancer research at the discretion of the Trustees.	29,774.14
EMMA GILDERSLEEVE LANE FUND ..... For cancer research, "preferring but not requiring that this legacy be kept as capital and only its income used for research in cancer."	20,000.00
THE ISABEL FABYAN LOMBARD FUND .... For the comfort and/or entertainment of Nurses in the Hospital.	5,000.00
THE JOHN R. MACOMBER QUADRANGLE FUND ..... Income for the maintenance of the Macomber Quadrangle.	5,000.00
THE MALLINCKRODT FUND ..... Income only to be used for the support of the Mallinckrodt Ward (Ward 4) with limited discretion to the Trustees in case this support is no longer needed.	518,112.62

GENERAL HOSPITAL FUNDS (Continued)

	Principal
THE FRANCIS COGSWELL MANNING FUND Income for research work under the direction of Chief of the Medical Service.	$ 10,190.00
THE CAPTAIN MARTELL FUND ..... "The interest to be used for the annual purchase of a book or books for the Warren Library, these books to be seafaring stories with the story of Captain Martell pasted on the inside cover of each one."	121.36
MASSACHUSETTS GENERAL HOSPITAL SCHOOL OF NURSING GRADUATE NURSES SCHOLARSHIP FUND ..... Income for Graduate Nurse Scholarships Gift of Miss Annabella McCrae	500.75
JAMES HOWARD MEANS FUND ..... To be used under the direction of the Chief of Medical Service primarily towards bringing to the Hospital on a pro tempore basis physicians or other prominent persons whose presence will aid and advance the work of the Medical Service.	30,150.00
JAMES C. MELVIN FUND ..... Subject to certain annuities, income for any purpose of the Corporation, with nonobligatory suggestion for increasing medical knowledge, assisting persons particularly the young who have had hospital treatment, bettering treatment in country districts and co-operating with the Trustees under the Will of James C. Melvin. Bequest of Mrs. Clara M. Melvin.	671,811.13
MEMORIAL FUND TO THE DOCTORS AND NURSES WHO DIED IN THE WAR OF 1917-18 ..... Income for the general purposes of the Hospital, but preferably for free care of patients. Gift of Base Hospital No. 6 Fund through the Ladies' Visiting Committee.	6,189.47
ALBERT G. MITCHELL FREE BED FUND .... Income for the treatment of cancer with nonobligatory suggestion that use of the bed be given to members of the Department of Music in the Boston Public Schools, or otherwise for the use of the teachers of said schools.	21,373.77
THE MITTON FUND ..... Income to be used for General Surgery purposes under the direction of Dr. Russell.	57,529.64

GENERAL HOSPITAL FUNDS (Continued)

	Principal
THE MIXTER FUND ..... "... the income only to be expended under the direction of Dr. W. Jason Mixter, during his life, and thereafter by the Chief of the Neurosurgical Service."	$ 72,641.87
FORRIS JEWETT MOORE AND EMMA BAKER MOORE FUND ..... Income for Hospital uses for the alleviation of human suffering.	76,143.32
FANNIE EDSON MORRISON FUND ..... "Income . . . for the support of the Social Service Department."	711,320.97
FRANCIS A. NEWELL ENDOWMENT FUND Income to be used "for the most approved method of treating hip disease due to accident in indigent children."	50,000.00
NORTH END DIET KITCHEN RESTRICTED FUNDS ..... "Income to provide diet for the sick poor."	11,366.78
NORTH END DIET KITCHEN UNRESTRICTED FUNDS ..... "To provide diet for the sick poor."	34,716.65
FLORENCE NUTE FUND ..... To be "used on behalf of patients with slender or no means with which to meet Hospital expenses." Bequest of Lewis W. Nute.	68,278.57
DR. ALICE IRENE OUTHOUSE MEMORIAL FUND ..... Income to be used for the purchase of pediatric literature for the Treadwell Library.	530.00
OUTPATIENT DEPARTMENT FUND ..... Income for needy patients. Bequest of Miss Louie Long.	3,479.71
EMERETTE O. PATCH FUND ..... For the use of the Baker Memorial.	8,240.84
PATHOLOGICAL LABORATORY AND RANDALL FUNDS ..... Income for Pathological Laboratory.	83,875.41
JACOB C. R. PEABODY AND ELSA MASON LORD PEABODY MEMORIAL FUND .... Income for the Phillips House.	79,855.33

GENERAL HOSPITAL FUNDS (Continued)

	Principal
ELIZABETH ANNE PETERSON MEMORIAL FUND ..... Income to further the work of the Neurosurgical Service.	$ 20,678.55
PHILLIPS HOUSE NURSES LOAN FUND ..... Income for loans to Phillips House nurses.	2,190.00
MARY GOVE PITMAN FUND FOR UROLOGICAL RESEARCH ..... Income for investigation— *First*: Of the cause, treatment and prevention of recurrence of urinary stones, and *Second*: Of any other pathological or physiological problems encountered in urological surgery which are deemed worthy of investigation, the decision as to their importance to be made by a Committee appointed by the Trustees of the Hospital.	21,051.38
JOHN REDMAN FUND ..... Income for any purpose except erection or repairs of buildings.	455,113.34
RESEARCH AND TEACHING FUND ..... Income for research and teaching.	141,475.84
EDWARD PEIRSON RICHARDSON LECTURESHIP IN MEDICAL SCIENCE ..... "The income to be used to provide honoraria for lectures by visiting scientists, preferably in subjects relating to surgery —" Gifts of Dr. Richardson's Sons in Memory of their Father.	15,000.00
JOHN FYFFE RICHARDSON MEMORIAL FUND ..... Income only to be spent by the Trustees on recommendation of the Chief of the Huntington Memorial Laboratories or the senior cancer investigator preferably for leukemia research or related areas of cancer research. 5% of income to be added to principal each year until the fund reaches $400,000.	28,501.71
MAURICE HOWE RICHARDSON FUND ..... Income for surgical research, as recommended by the Chiefs of the General Surgical Staff.	40,400.00
RICHARDSON TUBERCULOSIS FUND ..... "For the prevention or cure of tuberculosis." Bequest of Mrs. Mary Rich Richardson	276,141.63

GENERAL HOSPITAL FUNDS (Continued)

	Principal
THE MARIAN MAHIN ROBB MEMORIAL FUND ..... Income for Cancer Research.	$ 5,695.00
ELSIE M. ROBBINS SOCIAL SERVICE FUND For social service purposes in the Arthritis Clinic.	12,814.55
WILLIAM MILTON ROSE, M.D., MEMORIAL FUND ..... Income for the benefit of worthy needy persons.	44,766.46
MARY ELIZABETH SALTONSTALL FUND .... Income for the Social Service of the Hospital, "preference being given for the help and care of little children". Bequest of Philip L. Saltonstall.	5,000.00
MARTHA A. SARGENT FREE BED FUND Income for Free Beds in the Women's Department. Bequest of William A. Sargent.	1,042,816.18
SCHOOL OF NURSING SCHOLARSHIP FUND For scholarships at the School of Nursing.	25,444.64
THE CHARLES L. SCUDDER FUND ..... Income for the Fracture Service. Bequest of Miss Elizabeth M. Garritt.	30,000.00
GEORGE C. AND ANNE H. SHATTUCK FUND ..... Income for music at the General Hospital annually on Christmas Day and Easter Sunday. Surplus income may be used for music on other days, including radio. Gift of Dr. Frederick C. Shattuck.	2,000.00
THE TERRY SHUMAN MEMORIAL FUND Income for additions to the Library of the Neurology Department of books on research, periodicals, reports or publications, etc.	1,420.10
EMMA H. SLADE FUND ..... For any Hospital purpose, but preferably to provide particularly for those in the middle ranks of life who need such care.	10,195.20
SOCIAL SERVICE FUND ..... Income for Social Service.	111,015.15
THE CHARLES CHESLEY SPRINGER FUND "Income for the relief of soldiers, sailors or marines who have been in the military service of the United States and who are residents of Massachusetts, and for the relief of their families. If at any time there should not be any soldiers, sailors, marines or their families requiring such relief, the income may be applied to any of the purposes of the Hospital." Bequest of Miss Mary W. Springer.	345,020.58

GENERAL HOSPITAL FUNDS (Continued)

	Principal
STAFF MEMORIAL FUND Income to be expended by direction of the General Executive Committee.	$ 3,811.00
SURGICAL INSTRUMENT FUND Income for special surgical instruments.	6,475.00
GEORGE N. TALBOT FUND Income for Children's Medical Department as directed by Chief of Service. Bequest of George N. Talbot and Gifts of Dr. Fritz B. Talbot.	14,151.40
MRS. NATHANIEL THAYER FUND Income to be used "preferably for the Social Service Department."	10,000.00
ANNIE A. LONGFELLOW THORP MEMORIAL FUND Income for Warren Library.	3,450.00
THYROID LABORATORY FUND Income only for the Thyroid Laboratory.	3,628.29
TRAINING SCHOOL FOR NURSES FUND Income for Training School for Nurses. Sundry Gifts and Bequests.	40,037.92
TREADWELL LIBRARY FUND Income for the Treadwell Library.	7,555.00
LAWRENCE TUCKER FUND So far as expedient for the treatment and alleviation of venereal diseases, and otherwise for the general purposes of the Hospital.	429,753.01
UROLOGICAL PERIODICALS FUND Income for purchase of urological periodicals for Staff Room of Urological Ward. Gift of Dr. Channing S. Swan.	1,000.00
THE BETH VINCENT FUND Income to be used for research under the direction of the Chief of Surgical Service.	100,438.36
FRANCES KNOWLES WARREN FUND Income for the General Purposes of the Hospital; principal available in emergency. Bequest of Mrs. George E. Warren.	30,000.00
WARREN LIBRARY FUND Income for books for patients. Sundry Gifts and Bequest.	5,067.19
DEPENDENCE S. AND WALTER B. WATERMAN FUND "Income to be applied to the care of those who can pay something but not all." Bequest of Walter Bowen Waterman.	134,573.62

GENERAL HOSPITAL FUNDS (Continued)

	Principal
GEORGE ROBERT WHITE FUND ..... To be held as a permanent fund to be known as the George Robert White Fund, the income only to be used first for the maintenance and equipment of the George Robert White Memorial building and second for the general purposes of the Hospital. Bequest of Mrs. Harriet J. Bradbury	$4,119,730.30
GEORGE ROBERT WHITE FUND ..... "Income for development or maintenance of a department for treatment of diseases of the skin." Bequest of George Robert White	100,000.00
DR. JAMES C. WHITE NEUROSURGICAL FUND ..... Income to be added to principal until the fund reaches $5,000; thereafter 50% shall be added until the fund reaches $10,000; and thereafter 25% to $50,000. Income not so added to principal to be used in the interest and promotion of neurosurgery under the direction of Dr. James C. White.	1,025.50
GEORGE WIGGLESWORTH FUND ..... Ten per cent of gross income in each year to be added to principal; net income remaining for the general purposes of the Corporation.	58,617.95
WOODEN LEG FUND ..... Income for wooden legs and other devices for diseased and injured legs. Bequest of Nathaniel I. Bowditch $5,000.00 Sundry Gifts 2,600.00	7,600.00
TEMPORARY FUNDS	5,839,269.96
TOTAL GENERAL HOSPITAL FUNDS	$29,489,352.41

BUILDING FUNDS

CLINICS BUILDING FUND	$ 164,560.26
150TH ANNIVERSARY FUNDS	285,051.32
SURGICAL AND SPECIAL SERVICES BUILDING FUNDS	3,983,922.91
EMERGENCY WARD EXTENSION FUND	338,789.01
CARDIO-PULMONARY BUILDING FUND ..	390,645.51
SUNDRY FUNDS	1,272,509.00
TOTAL BUILDING FUNDS	$6,435,478.01

McLEAN HOSPITAL FUNDS

	Principal
EDWARD STANLEY ABBOT MEMORIAL FUND ..... For scientific investigation at McLean Hospital.	$ 10,000.00
AMUSEMENT, ENTERTAINMENT OR OCCUPATION FUND ..... Income for amusement, entertainment or occupation of patients.	21,135.00
WENTWORTH HIGGINSON BARNEY FUND Income to be spent at the discretion of the Director.	3,987.52
EMILY H. BOURNE FUND Income for the training of nurses in mental nursing and to aid in the prevention and cure of deafness.	10,000.00
CLINICAL RESEARCH FUND ..... Income for research. Sundry Gifts and Bequests.	86,081.31
THE ISOBEL COLLINS SPECIAL FUND FOR THE LIBRARY OF McLEAN HOSPITAL .. Income for the purchase of books, music, and other things appropriate to the building up of a musical alcove for the library. Gift of Frank W. Kimball.	1,075.90
COWLES-TUTTLE MEMORIAL ART FUND .. Income for Art Room.	5,000.00
SAMUEL ELIOT MEMORIAL CHAPEL FUND For maintenance and operation of Chapel.	10,904.84
FREE BED FUNDS ..... Income for Free Beds. Sundry Gifts and Bequests.	356,187.45
GENERAL FUND ..... For any Hospital purpose.	22,332.51
INCOME UNRESTRICTED FUNDS ..... Income for any Hospital purpose. Sundry Gifts and Bequests.	171,205.24
ANNABELLA McCRAE SCHOLARSHIP FUND Income for Scholarships for the School of Nursing	4,154.21
WETHERILL FUND ..... The income only to be used for the Wetherill Awards to graduates of the McLean Hospital School of Nursing. Gift of Dr. E. Stanley Abbott.	2,000.00

McLEAN HOSPITAL FUNDS (Continued)

	PRINCIPAL
MARY JESSIE WILLIS MEMORIAL FUND To establish a free bed in memory of Mary Jessie Willis, to furnish luxuries, comforts and amusements to such insane women patients as may be unable to provide the same for themselves, and generally for the uses of the Hospital. Bequest of Mrs. Frances H. Willis.	$ 24,283.63
BUILDING FUNDS	78,413.86
TEMPORARY FUNDS	283,136.60
TOTAL McLEAN HOSPITAL FUNDS	$1,089,898.07

FIDUCIARY FUNDS

BULLARD ANNUITY FUND	$100,000.00
BETTY DUMAINE FUND To be held until accumulated income plus additions reach $100,000, then one-half of income to be added to principal and balance used for such Hospital purposes as Trustees deem best.	4,248.40
EYEGLASS FUND Income payable to a life interest. Bequest of Frances A. Burnham.	2,282.00
THE AGNES B. FITZGERALD FUND Temporarily payable to a life interest.	931.02
FOSTER FAMILY FUND "Income to be used to pay the hospital bills of patients nominated by the donor or his wife. After their decease the power of nomination shall descend in succession to their oldest child living, then grandchild. Thereafter, or in case the line of descent shall cease, the income shall be for the unrestricted uses of the Hospital." Gift of C. H. W. Foster.	15,000.00
MABEL HOVEY HARRIS MEMORIAL FUND "In Memory of Mrs. Henry W. Harris" Income to be used at the discretion of the Ladies' Visiting Committee for the benefit of the Hospital and its patients. Gift of Mr. and Mrs. Edwin S. Webster.	5,375.00

FIDUCIARY FUNDS (Continued)

	Principal
SARAH PROCTOR JOSLIN FUND Income to be expended by the Ladies' Visiting Committee for books and other articles.	$ 1,000.00
MARION LEE LAWRENCE MEMORIAL FUND Income to be administered by the Ladies' Visiting Committee, or by any subcommittee duly authorized by them, for the benefit of the Hospital and its patients. "Given by Her Family and Friends."	10,943.00
FANNIE NEWELL SIMES FUND Income payable to a life interest. Gift of Miss Olive Simes.	20,000.00
MASSACHUSETTS GENERAL HOSPITAL SCHOOL OF NURSING ENDOWMENT FUND Income to be used as directed by vote of the Committee created under the Deed of Gift.	360,735.13
ANNIE NORTON WARD FUND For charitable purposes connected with the Hospital pursuant to the vote of the Ladies' Visiting Committee.	1,000.00
WARREN PRIZE FUND Income for a triennial prize. Bequest of Dr. J. Mason Warren.	11,889.84
KATHARYN HOYT WATSON FUND For use of the Ladies' Visiting Committee.	1,000.00
Temporary Funds	14,585.23
Suspense and Special Funds	3,701.10
TOTAL FIDUCIARY FUNDS	$552,690.72

SUMMARY

Principal Funds	$32,736,552.83
Temporary Funds	6,136,991.79
Funds Invested in Plant	24,970,484.06
Director's Accounts	6,423,067.35
	$70,267,096.03
Gain	242,624.50
Funds	$70,509,720.53

Examination of Accounts

January 28, 1965

To the Trustees
The Massachusetts General Hospital
45 Milk Street
Boston, Massachusetts

Sirs:

We have examined the balance sheet of The Massachusetts General Hospital as at September 30, 1964 and the related income statements of the General Hospital and McLean Hospital for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Under the terms of pension plans adopted by the hospital, the hospital's portion of benefits payable to employees compensated from general operating funds of the hospital will be charged against operations as such benefits are paid. No provision has been made in the accompanying financial statements for the amount of the hospital's liability at September 30, 1964, for service benefits accruing to employees paid from general operating funds.

Subject to the explanation noted above, in our opinion, the accompanying balance sheet and related income statements, with their supporting exhibits, present fairly the financial position of The Massachusetts General Hospital at September 30, 1964 and the results of its operations for the year ended at that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

We have made a test check of the charges to income funds for special purposes for the year ended September 30, 1964 (including income arising from principal funds), in respect of the General Hospital and McLean Hospital funds. Based upon such examination and our review of internal control maintained in relation to funds, it is our opinion that charges made against the above-mentioned funds were properly chargeable thereto.

Patterson, Teele & Dennis

GIFTS AND BEQUESTS 1963-1964

GENERAL FUND

FOR ANY HOSPITAL PURPOSE		
Bequests	$1,432,498.39	
Gifts	51,565.48	$1,484,063.87

GENERAL HOSPITAL FUNDS

Fund No.			
1016	FULLER ALBRIGHT FELLOWSHIP FUND		
	Gifts		$ 11,364.90
1018	THE LARZ ANDERSON FUND		
	Bequest of Mrs. Larz Anderson		12,500.00
1020	ANESTHESIA FUND		
	Gifts		350.00
1080	BAKER MEMORIAL FUND		
	Bequest of Russell Goldsmith	$ 250.00	
	Bequest of Clarence O. Sherman	4,009.83	
	Gift	100.00	4,359.83
1240	CANCER RESEARCH ENDOWMENT FUND		
	In Memory of J. Lothrop Motley		1,205.50
1245	IDA M. CANNON MEMORIAL FUND		
	Gifts		1,741.00
1248	EDWIN F. CAVE TRAVELLING FELLOWSHIP FUND		
	Gifts		750.00
1290	MGH ENDOWMENT FUND FOR STUDY OF CHRONIC DISEASES		
	Gifts		10,500.00
1332	THE WILLIAM C. AND JESSIE B. COX SCHOLARSHIP FUND		
	Gifts		24,584.82
1410	DR. WALTER JAMES DODD MEMORIAL FUND		
	Gifts		122.50
1580	GENERAL SURGICAL FUND		
	Gift		25.00
1710	INCOME UNRESTRICTED FUNDS		
	Bequest of Maud E. Appleton	$ 1,025.91	
	Bequest of Miss Ethel Johnson	99,103.12	100,129.03
Fund No.			
1770	DANIEL FISKE JONES MEMORIAL FUND		
	Gift		$ 50.00
1785	THE VARAZTED H. KAZANJIAN FUND		
	Gift		1,000.00
1800	MARGERY AMORY KETCHUM MEMORIAL FUND		
	Gifts		4,010.00

1818	JOHN R. MACOMBER QUADRANGLE FUND		
	Gift		1,666.68
1930	ALBERT G. MITCHELL FREE BED FUND		
	Bequest of Albert G. Mitchell		17,293.24
1940	THE MITTON FUND		
	Gifts		900.00
1950	THE MIXTER FUND		
	In Memory of William S. Matthie	$ 5.00	
	Gifts	1,090.00	1,095.00
2180	JACOB C. R. PEABODY AND ELSA MASON LORD PEABODY MEMORIAL FUND		
	Bequest of Wayne E. Stiles		44,089.93
2185	ELIZABETH ANNE PETERSON MEMORIAL FUND		
	Gift		678.55
2347	THE MARIAN MAHIN ROBB MEMORIAL FUND		
	Gifts		452.50
2401	SCHOOL OF NURSING SCHOLARSHIP FUND		
	In Memory of Mrs. Margaret W. Corbett	$ 92.00	
	In Memory of Mary Driscoll	10.00	
	In Memory of Dorothy Dayton Morgan	5,026.50	
	In Memory of Mr. Valentine Norton	23.00	
	In Memory of Miss Alice O'Gorman	25.00	
	In Memory of Mr. Robert Petzold	20.00	
	In Memory of Burnett Pitt, Ph.D.	35.00	
	In Memory of Eileen C. Robinson	15.00	
	Gifts	208.50	5,455.00
2440	TERRY SHUMAN MEMORIAL FUND		
	Gift		50.00
2600	THE THYROID LABORATORY FUND		
	Gifts		325.00
2815	UNRESTRICTED FREE BED FUND		
	Bequest of Emma Willard Gleason	$ 52.44	
	Bequest of Mrs. Elise Fay Loeffler	466.25	
	Bequest of Charles Gustavus Lundell	104,049.66	104,568.35
			$ 349,266.83

BUILDING FUNDS

ARTHUR W. ALLEN MEMORIAL FUND		
Gifts		$ 288,219.38
CARDIO-PULMONARY LABORATORY		
Gifts	$ 120,799.75	
Government Grant	159,300.00	280,099.75

CLINICS BUILDING FUND		
Bequest of Henry J. Grisey	$ 2,592.00	
Gift	1,000.00	3,592.00
COFFEE SHOP CONSTRUCTION FUND		
Gifts		3,836.56
EMERGENCY WARD EXTENSION FUND		
Gifts	$ 14,088.75	
Government Grant	73,975.98	88,064.73
150TH ANNIVERSARY FUNDS		
Gifts		107,431.56
NORTH BUILDING CONSTRUCTION FUNDS		
Gifts		706,816.79
ORTHOPEDIC RESEARCH BUILDING FUND		
Gifts		13,270.00
PEDIATRIC CONSTRUCTION FUND		
Bequest of Mary Fuller Wilson		182,097.50
		$1,673,428.27

McLEAN HOSPITAL FUNDS

GENERAL FUND		
Bequest of James C. Keith	$ 147,862.83	
Gifts	10,813.19	$ 158,676.02
McLEAN BUILDING FUNDS		
Gifts		21,117.22
		$ 179,793.24
TOTAL PRINCIPAL FUNDS		$3,686,552.21

Income Funds

General Hospital Funds

Treasurer's Funds

ANNUAL FREE BED FUND			
Mrs. Taylor Black		$ 500.00	
Mr. and Mrs. Ralph Lowell		200.00	
In Memory of John Lowell	1816-1820		
John Amory Lowell	1843-1851		
John Lowell	1856-1870		
John Lowell	1910-1922		
Trustees of The Massachusetts General Hospital			
The 1916 Sewing Circle		100.00	
United Community Services		400.00	$ 1,200.00
CURRRENT EXPENSE FUND			
Bequest of Caroline E. Chickering		$ 13,125.00	
Bequest of James O. Graves		129.29	
Gifts		268.00	
United Community Services		194,750.00	208,272.29
DR. WALTER BAUER MEMORIAL FUND			
Gifts		$ 7,602.40	
CHESTER M. JONES LECTURESHIP FUND			
Gift		25.00	
KAYPE FUND			
Gifts		5,449.13	
DR. ALFRED LEITNER MEMORIAL FUND			
Gifts		1,086.50	
MISCELLANEOUS FUNDS			
Bequest of James B. Ayer	$2,000.00	3,000.00	
Gift	1,000.00		
RESPIRATORY UNIT FUND			
In Memory of Mary F. Grady	$1,008.50		
Gifts	1,275.00	2,283.50	19,446.53
			$ 228,918.82

Income Funds

General Hospital Funds

Funds for Special Purposes

Bequests		$ 17,621.12
Gifts		140,927.93
Grants—Government	$7,884,975.13	
Foundations	861,758.71	8,746,733.84
		$ 8,905,282.89

McLean Hospital Funds

FUNDS FOR SPECIAL PURPOSES

Bequests		$ 13,675.00
Gifts		16,480.50
Grants—Government	$ 641,632.16	
Foundations	24,498.25	666,130.41
		$ 696,285.91

TOTAL INCOME FUNDS		$ 9,830,487.62
TOTAL PRINCIPAL FUNDS	$3,686,552.21	
TOTAL INCOME FUNDS	9,830,487.62	$13,517,039.83

Henry R. Guild
Treasurer

ONE HUNDRED AND FORTY-SEVENTH

ANNUAL REPORT

OF THE

McLEAN HOSPITAL

A DIVISION OF THE

MASSACHUSETTS GENERAL HOSPITAL

1964

OFFICERS AND STAFF, 1965

BELMONT

MASSACHUSETTS

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MASSACHUSETTS GENERAL HOSPITAL

McLEAN HOSPITAL

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Phillips Ketchum

President
Francis C. Gray

Vice-President and Treasurer
Henry R. Guild

Secretary and Assistant Treasurer
George S. Weld

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1955	Philip H. Theopold, 294 Washington Street
1958	*Sidney R. Rabb, 393 D Street, South Boston
1962	Francis H. Burr, 50 Federal Street
1964	George Putnam, 60 Congress Street
1965	*Edward L. Bigelow, 111 Franklin Street

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1963	Phillips Ketchum, 294 Washington Street

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George Putnam

*Appointed by the Governor of the Commonwealth

Massachusetts General Hospital / McLean Hospital

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F. Frank Vorenberg

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Assistant Administrator
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Administrative Assistant
Willa F. Pasho, B.S.

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Grounds and Transportation
Howard R. Gallant

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Harold F. Smith

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John J. Blanchard, Assistant

Psychology
Irene Pierce Stiver, Ph.D.

Public Relations
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Purchasing
Alexander Armour

Social Science
Norman W. Bell, Ph.D.

Social Work
Golda Edinburg, M.S.S.S.

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Margaret C. Tibbetts, R.N., B.S. in Nurs. Ed.

Director of Clinical Nursing
Hilda Mertz, M.S.N.

Assistant Directors of Nursing Service
Daniel H. Lennox, R.N., M.S. in Nurs. Ed.
Americo A. Zerneri, R.N., B.S.

Assistant Director of School of Nursing
Mildred C. Makin, R.N., Ed.M.

McLEAN HOSPITAL STAFF AS OF JULY 1, 1965

Consulting Staff

Stanley Cobb, M.D., *Psychiatrist*
Harry C. Solomon, M.D., *Psychiatrist*
Paul D. White, M.D., *Cardiologist*

MEDICAL STAFF

Director

Francis de Marneffe, M.D.

Psychiatrist in Chief

Alfred H. Stanton, M.D.

Associate Director of Clinical Psychiatry

Paul M. Howard, M.D.

Psychiatrist

Erich Lindemann, M.D.

Attending Psychiatrists

Morris H. Adler, M.D.
Martin A. Berezin, M.D.
Irving Kaufman, M.D.
William F. Murphy, M.D.
Henry Wermer, M.D.

Associate Psychiatrists

Edward M. Daniels, M.D.
Stanley H. Eldred, M.D.
James A. Haycox, M.D.
Merton J Kahne, M.D.
Maria Lorenz, M.D.
Mathew Ross, M.D.

Associate Attending Psychiatrists

Arthur J. Cain, M.D.
Sidney Levin, M.D.
Arnold H. Modell, M.D.
Suzanne T. van Amerongen, M.D.
Norman E. Zinberg, M.D.

Assistant Psychiatrists

Lloyd M. Caplan, M.D.
Jacob Christ, M.D.
John G. Clark, Jr., M.D.
Roy M. Coleman, M.D.
Paul R. Dinsmore, M.D.
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Ruth B. Beuscher, M.D.
William A. Binstock, M.D.
George Chalpin, M.D.
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A. Scott Anderson, Jr., M.D.
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Jacob C. Wolterbeek, M.D.

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William E. Stone, M.D.
Paul L. Watson, M.D.
Joseph Weinreb, M.D.
Ruth S. Weiss, M.D.
Donald Wexler, M.D.
Richard V. Wilson, M.D.

Clinical Fellows in Psychiatry

Samuel H. Barondes, M.D.
Richard D. Budson, M.D.
Sidney Green, M.D.
Eddie H. Harris, M.D.
Gary Jacobson, M.D.
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Resident Psychiatrists

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Director of Internal Medicine and of Research in Clinical Physiology

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Dennis Slone, M.D.

Assistant Dental Surgeon

William H. Tingey, Jr., D.M.D.

Associate Neurologist

Pierre M. Dreyfus, M.D

Radiologist

Majic S. Potsaid, M.D.

Consultant in Electroencephalography
John A. Abbott, M.D.

RESEARCH LABORATORY STAFF

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Jordi Folch-Pi, M.D.

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Fritz A. Lipmann, M.D.
Donald D. Van Slyke, Ph.D.
Alfred H. Stanton, M.D., *Ex-officio*

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Alfred Pope, M.D.

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Helen H. Hess, M.D.

Assistant Neuropathologist
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J. David Robertson, M.D., Ph.D.

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George P. Hauser, Ph.D.
Lewis C. Mokrasch, Ph.D.
Pierre J. Stoffyn, Ph.D.

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Lucila A. Autilio, Ph.D.
Joseph Eichberg, Jr., Ph.D.
Anne Marie Stoffyn, Ph.D.

Research Fellow in Neuropathology
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Research Fellow in Biochemistry
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Jean Weatherbee, O.T.R., B.S.

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Lynne Robertson, B.S.

Vocational Rehabilitation Counselor
Morton A. Stone, M.Ed.

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Helga Haendel

Manual Arts Instructor
Blake Miller

Music Therapy
Rachel A. Mason, M.T.R., B.S. Music Therapy

Patients' Library
Claire R. Coffey, B.A.

DEPARTMENT OF PATIENT EDUCATION

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Associate Psychologist
Helen J. Kenney, Ed.D.

Principal, Arlington School
John F. Dunn, M.A.

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Irene Pierce Stiver, Ph.D.

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(Department of Education)
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Ralph G. Semon, Ph.D.
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Fellow
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Katherine Spencer, Ph.D.

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Murray Melbin, Ph.D.
Ronald L. Nuttall, Ph.D.
Leonard F. Solomon, Ph.D.

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(Social Group Work)
Shirley Goldstein, M.S.W.
(Outpatient Clinic)
Constance A. McGrath, S.M.
Martha M. Norton, M.S.W.

Research Social Worker

Mollie Grob, S.M.

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Elizabeth Wiley, M.S.S.A.

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(Outpatient Clinic)
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(Outpatient Clinic)
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(Outpatient Clinic)
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X-Ray

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Director of Clinical Nursing

Hilda Mertz, M.S.N.

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Virginia B. Ladd, R.N.
Donald J. MacLean, R.N.
John P. Pitcherale, R.N., M.S.
Lloyd L. Stanley, R.N., M.A.

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LaVonne E. Davidson, R.N., M.S.
Harriet F. DeHoff, R.N., M.S.

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JoAnn H. Smith, R.N., B.S.

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Phyllis M. Warden, R.N., B.S., in Nurs Ed.

Assistant Instructor in Sciences
George L. Frazee, R.N., A.B.

Coordinator in Medical and Surgical Nursing
Helen B. Langton, R.N., Ed. M., M.S.N.

Instructor in Medical and Surgical Nursing
Flora S. McLaughlin, R.N., B.S. in Ed.

Head Nurse, Health and Operating Room
Mary Ann Corcoran, R.N.

CLINICAL NURSING CONSULTANT
Ida O. Pelletier, R.N., M.A.

Report of the Director

THE development of the hospital gained momentum during the past year as some plans were implemented and as others were developed.

The Rehabilitation Center was dedicated in October with a Clinical Symposium at the hospital on "The Individual and the Community—Current Perspectives in Rehabilitation," which was attended by psychiatrists and other professional people from various parts of the country. Papers were presented by the Psychiatrist in Chief, the Director of Clinical Psychiatry and the Director of Activity Therapies from the hospital staff. In addition, Donald W. Winnicott, M.A., F.R.C.P., Physician, Paddington Green Hospital, London, England, and Daniel Blain, M.D., President, American Psychiatric Association, presented papers. The patients and their families also participated in the dedication exercises at a panel discussion presented by members of the staff at which the functions of the hospital and the Rehabilitation Center were discussed. A dinner at the Rehabilitation Center under the chairmanship of Mr. Ralph Lowell concluded this important day in the history of the hospital.

The Rehabilitation Center has fulfilled the expectations of its planners by achieving the centralization of many patient activities in a colorful, attractive setting, thus creating a different picture of the hospital for itself and for the community. Its major drawback—the need for more space for activities located there—is an indication of its success.

The Director organized a series of lectures under the sponsorship of the Lowell Institute of Boston on "The Psychiatric Hospital—its Opportunity and Responsibility," which were held at the Massachusetts General Hospital in the winter of 1964. The speakers were Francis de Marneffe, M.D., Alfred H. Stanton, M.D., Samuel Silverman, M.D., John Romano, M.D., Judge David Bazelon and Lawrence Kubie, M.D. The large audience underscored once again the extent of the community's interest in health matters and more specifically interest in the role of the psychiatric hospital in the organization of comprehensive psychiatric services.

In line with the conviction that the hospital would be strengthened

by extending its services to a broader section of the community, it took a radical step in establishing an Outpatient Psychiatric Clinic for the benefit of individuals of a wide geographic area in greater Boston who cannot afford private psychiatric care. Under the direction of Jacob Christ, M.D., and the Clinic head social worker, Mrs. Shirley Goldstein, a wide range of services is offered: diagnostic evaluation, individual psychotherapy, group therapy and family therapy, as well as consultation with social agencies. The Clinic has been an unqualified success, not only in providing an essential community service but also by adding a new dimension to the training programs of the hospital and by broadening the professional participation of the staff. Since charges are made on a sliding scale and Clinic income is less than 50 per cent of the cost, a deficit from the Clinic is inevitable, and it is only as a result of the support from the community that the operation of the Clinic has been possible. The hospital Auxiliary contributed $4300 to the initial expenditure of establishing the Clinic and since then the Nathan H. Gordon and Sarah A. Gordon Philanthropic Trust has contributed $10,000. As the Clinic expands it is essential that additional community support from private sources be received. The Outpatient Clinic is located in the Rehabilitation Center, but it will be moved to more spacious quarters next year.

The importance for the future development of the hospital of communicating to the public the achievements of the hospital's treatment, training and research programs have been emphasized in previous annual reports, as well as the inherent difficulties of doing so. Due to the generosity of Mr. Edward Mallinckrodt, a supplement in the *Boston Sunday Globe* was published on May 17, 1964, and is a step toward informing the public about the professional work at the McLean Hospital.

During the year the Electroencephalographic Laboratory was established to permit more patients to be tested. The EEG Laboratory is under the direction of Pierre Dreyfus, M.D., and John Abbott, M.D. The services of the laboratory are available not only to the patients of the hospital but also to patients in the community referred by physicians who are not on the staff of the hospital. The laboratory is located in the Rehabilitation Center and was established with gifts in memory of Ruth Phillips, Mr. and Mrs. Allen J. Gumner and Charlton MacVeagh.

The demand on the hospital to treat adolescents has continued. The

Arlington School, a secondary school located on the hospital grounds, has passed the experimental stage and has achieved a permanent place in the adolescent program. A major renovation of Arlington House was undertaken to provide bright, attractive classrooms, tutoring rooms, a laboratory and teachers' offices.

Since the quality of the work done in the hospital depends more upon the quality of the staff than on the space they occupy, the hospital's ability to attract well-qualified staff should be emphasized. During the past year several key positions were filled. Mr. James Garland replaced Miss Rose Farkas as Director of Activity Therapies when she left the hospital to go into another field. The new Director brings to his position special qualifications in the field of group work, activity therapies and administration. In order to facilitate the integration of the various programs of patient activity, he also was appointed as Supervisor of Group Work in the Social Work Department.

Mr. Morton Stone was appointed Vocational Rehabilitation Counselor, a new position to facilitate the return of the patients to the community by preparation for useful employment. The social, economic and educational background of most of the patients at McLean presents special problems in vocational rehabilitation. Many patients, prior to their illness, were functioning at a highly skilled professional level and will do so again, but in their course toward recovery they need intermediate occupations geared to their particular level of functioning. The development of programs of vocational rehabilitation designed to meet these transitional needs demands skill on the part of the counselor and participation by the patient, the family and employers (often including past, present and future employers), as well as members of the professional staff.

Mrs. Albert Yanow joined the staff as Director of Volunteers, replacing Mrs. Ann Gross who left to become a mother. Mrs. Yanow has a wide experience as a social worker in a mental hospital, combined with an interest in community affairs.

It was recognized that, although the reputation of the hospital depends primarily upon the quality of its work and is the responsibility of everyone in the hospital, relationship to the public can be facilitated by applying special skills in the preparation of publications about the hospital and in maintaining contact with the press, as well as in advising in a general way on internal public relations. Mrs. James Hopkins

was appointed as Director of Public Relations to carry out this special skill.

As the year ended, solid foundations had been laid for the future planning of the hospital. An evaluation has been made by the Director, with the participation of the members of the staff at McLean and at the Massachusetts General, of the past and recent developments of the hospital, its present position in the community and the directions in which it should move in the future. It is clear that it is necessary to plan the development of the hospital as a whole unit in which its primary function is to provide care for the sick, and in conjunction with this recognize that this primary function can be best fulfilled if training and research programs are developed. It is essential, therefore, that the hospital be viewed and planned as a unit. The first step is almost completed and deals with the types of programs the hospital should plan in clinical work, in teaching and in research in the immediate and more distant future, if it is to capitalize on its special assets. The next step will include setting up priorities for the implementation of these plans and an evaluation of the use of the present physical facilities and the need for additional facilities. Concurrently with this a study of the financial resources available for the development of the hospital in the future will be undertaken.

The Director is once again indebted to the Trustees, and especially to the McLean Hospital Committee, for their continued support in converting plans into action and also for their encouragement to the administration and staff to give full scope to their initiative and imagination in the formulation of future plans.

FRANCIS DE MARNEFFE, M.D.
Director

Report of the Administrator

IN addition to the usual activities required in the operation of a large decentralized hospital, special emphasis was placed on financial management, capital improvement and plant maintenance, departmental organization and personnel administration.

The hospital completed the fiscal year with a net surplus of $62,765 compared with a budgeted deficit of $59,610. The surplus was primarily due to an unanticipated increase in the average daily census of from 215 to 227 patients. Deductions from income amounted to $379,167, or 9.6% of total patient income. Of this amount $274,409 represented free care given to patients on less than full rates. The cost per patient day of $45.66 represented a 4.4% increase over the previous year and 13.9% increase over a five-year period. These costs were in line with, and were probably lower than, the cost of providing care in many of the larger teaching general hospitals.

Of the 359 persons admitted to the hospital during the past year, 268 or 75% were covered by various types of hospitalization insurance, a 21% increase over 1963. As mentioned in last year's report, financing of psychiatric care in non-governmental hospitals becomes more and more dependent on expanding third-party reimbursement programs. Net accounts receivable decreased 8.5%, and 12.5% over the past two years. This reduction was primarily due to expanded business office procedures and more adequate reserves for uncollectible accounts. Plans for next year include billing patients twice a month rather than monthly, and establishing special deposit accounts for patients' personal expenses.

The financial statement following this report is based on 367 days rather than 364. The additional three days is a necessary adjustment as a result of the hospital's decision to abandon the 13-period, 364-day fiscal year adopted in 1957 and revert to the 12-month, 365-day year.

During the year, $244,000 was committed for plant improvements, including $76,000 for Phase I of the DC to AC and powerhouse four-year conversion plan. Of this amount $203,000 was generated from the depreciation account and from the general fund net surplus, with a resulting fund deficit of $41,000. There is no doubt that general funds are inadequate to meet the over-all capital needs of the institution.

Of the total amount committed for plant improvements, $195,000

was actually expended during the year. Major projects included installation of one 300 KVA Transformer and secondary feeders to the Centre Building, South Belknap and Appleton; removal of three obsolete boilers and installation of one new 500 HP boiler; replacement of the deteriorated steam line from the powerhouse to South Belknap; complete interior renovation of the Arlington House School; replacement of the Codman House perimeter fence; installation of a central oxygen and suction system in Proctor House; installation of tile flooring on Proctor House II; renovation of bathroom facilities on Codman House I; and replacement of heating units in four outlying buildings. An accelerated program of redecorating and refurbishing patient units was started during the year with the replacement of all patient furnishings and installation of wall-to-wall carpeting in patient rooms on Codman House I; partial replacement of furnishings and carpeting was also completed on North Belknap II and South Belknap II. Of the $56,000 expended for major movable equipment, $31,000 was allocated to patient units. In addition, a 24-passenger bus was purchased to meet the growing needs of patient group activities.

Plant maintenance activities continued at a rapid pace during the year. Extensive repairs were made to roofs, including replacement of slates, gutters and downspouts. A program of semi-annual inspection of all roofs, valleys and gutters has been established and should eliminate much of the need for emergency repairs. Sprinklers were installed in basement, storage and laundry areas. Exterior painting included 165 Mill Street, the Garage, the Stable, West Cottage, the Gymnasium and Codman House. Interior painting included South Belknap III, North Belknap I and III, Laundry, South Cottage, all patient rooms in Codman House I and a portion of the Men Nurses Home. Work on the roads and grounds included enlarging the parking area facing the Administration Building to accommodate 15 instead of six cars; resurfacing the Appleton House drive and widening Central Avenue. Within the next few years the main roads should be widened and resurfaced, and the parking lots enlarged and hard-surfaced.

The supportive departments have effectively carried out the various activities and programs in addition to undertaking part of the projects in various areas. Departmental reorganization has continued during the year, but has been limited to non-supervisory positions. The Maintenance Department eliminated the positions of stockroom clerk and

assistant painter foreman, and added the positions of utility mechanic and architectural draftsman. This change has improved the preventive maintenance program and facilitated the programming of renovation and remodeling projects. The material handling, furniture control, and plumbing and electrical inventory functions were transferred from the Maintenance Department to the Purchasing Department with improved efficiency at less cost. In addition, the Purchasing Department has assumed responsibility for the automatic distribution of specific categories of inventory supplies to several patient units on a trial basis. One of the more interesting developments has been the pilot study undertaken on Codman House I and Codman House II in which the responsibility for serving food for the noon and evening meals was transferred from the Nursing and Housekeeping Departments to the Dietary Department. The success of this program could solve many problems involving food and housekeeping services on patient units. Additional weekend housekeeping services have been provided on patient units and has eliminated some of the scheduling difficulties as well as improving the appearance of the units. The organization and activities of the Housekeeping Department will be carefully reviewed next year

In February, the responsibility for operating and staffing of the Coffee Shop store was transferred from the Dietary Department to the Hospital Auxiliary. Close communication with the Auxiliary has been maintained through a joint liaison committee which regularly reviews the operation of the store. The success of this venture will serve as a basis for future discussions concerning the transfer of the total management of the Coffee Shop to the Auxiliary.

The decentralization of medical records on patient units has proven successful, even though requiring additional personnel. The quantitative analysis of inpatient charts performed by the Medical Records Department was discontinued. However, the staff carried out the mechanics for qualitative review by the Medical Records Committee. The departmental complement continued to increase with the addition of one transcriber during the year. In the last eight years the departmental complement increased 140% or from five to 12 employees. Miss Delila Mockapetris resigned as Medical Records Supervisor and was replaced by Miss Joan Gratto. The difficulty in recruiting a registered Medical Record Librarian has made it necessary for the Administrator's

Office to provide close departmental supervision. Secretarial personnel assigned to the clinical administrators of Bowditch, South Belknap I and South Belknap II have been relocated from the central secretarial area to offices in the patient buildings. This change has been enthusiastically received by the physicians and will probably expand in the future.

The hospital has made effective use of numerous committees during the past year. In addition to the committees of the medical staff, other committees have included the Coordinating Committee, the Rate Study Committee, the Safety Committee, the Disaster Committee, the Office Space Committee, the Equipment Purchase Committee, the Auxiliary Liaison Committee, the Dietary-Housekeeping-Nursing Committee, the Non-nursing Functions Committee, the Standards Committee, the Patient-Personnel Conference, and the Patients Work Committee. These committees have not only performed their assigned functions, but have also improved communications between hospital departments and between staff and patients.

Personnel benefits have been considerably improved during the past year. In October the minimum wage was increased from $1.25 to $1.30 per hour and numerous salary ranges were upgraded. Employees working on a permanent part-time schedule of at least 20 hours a week have been provided pro-rated vacation, holiday and sick leave benefits. In May, a hospital-paid employee group life insurance program became effective and was included as part of the revised hospital pension plan. A payroll savings plan for hospital employees was established in cooperation with the Waverley Cooperative Bank. At present approximately 100 employees are participating in the program. Next year the hospital will assume financial responsibility for the individual Blue Cross coverage of permanent employees under a new Master Medical contract and will make available to all employees a Tax Sheltered Annuity Program.

The hospital was faced with a considerable amount of personnel turnover below the supervisory level. Of the 905 applicants interviewed by the Personnel Department, 385 were employed. The lack of qualified applicants for skilled and semi-skilled maintenance positions, and the difficulties encountered in recruiting and retaining housekeeping, dietary, nursing and clerical personnel at the lower salary levels has presented problems to the departments involved. Improved salary ranges and fringe benefits should help to stabilize these groups of employees.

During the year five employees with an average of 35 years of service began their retirement—Mr. Peter Calore, 43 years; Miss Ruth MacLeod, 42 years; Miss Mildred Whitcomb, 40 years; Miss Constance Doliber, 33 years; and Mr. Thomas Reed, 18 years. At the annual Service Pin Reception and Tea held in May, 43 employees were honored. Miss Mildred Whitcomb was awarded a 40-year pin and Miss Sarah Robertson, a 30-year pin. Twenty-year pins were awarded to Jordi Folch-Pi, M.D., and Mrs. Bridget Pomphrett. Eleven employees received 10-year pins and 20 employees received pins for five years of service.

Even though deficiencies and problems continue to exist, significant improvement has been made in four major areas; namely, finances, plant, organization, and personnel. Obviously the increased cost of hospitalization is of great concern to all hospitals, including the voluntary, private, psychiatric hospitals. Provision of comprehensive inpatient psychiatric care may strain and probably exceed the financial resources of many patients with otherwise adequate incomes. Expansion and improvement of hospital insurance programs and further development of partial hospitalization and other treatment programs should not only solve some of the present problems, but also make it possible for the hospital to offer its inpatient services to a larger segment of the community. The development of the Outpatient Clinic has expanded the hospital's services to the community by offering outpatient diagnostic and treatment services to people who cannot finance private psychiatric care.

The present buildings are structurally sound and are gradually being upgraded. However, they leave much to be desired architecturally and functionally, especially as patient units. These buildings are approximately 65 years old and lack many of the facilities found in modern hospitals. A master plan for the over-all development of the hospital, including programs, facilities and sources of funds, is being given special consideration at this time.

The progress made during the past year could not have been achieved without the understanding of the Board of Trustees, the McLean Hospital Committee, the Director of the hospital, and the cooperation, loyalty and untiring efforts of all department heads and personnel.

HENRY J. LANGEVIN
Administrator

McLean Hospital

BALANCE SHEET

September 30, 1964

ASSETS

Cash		$22,378.77
Accounts Receivable—Patients		
Current Period Billing	$291,122.75	
In-House Accounts Overdue	251,837.42	
Discharged Accounts	214,167.26	
Total Accounts Receivable	757,127.43	
Less: Allowance for Doubtful Accounts	103,973.40	653,154.03
Accounts Receivable Outpatient Clinic		1,015.75
Accounts Receivable School of Nursing		6,676.00
Accounts Receivable Other		8,835.18
Inventories—Perpetual		25,606.92
Inventories—Non Perpetual		34,246.94
Prepaid Items		1,138.12
TOTAL ASSETS		$753,051.71

LIABILITIES

Accounts Payable	10,738.79	
Accounts Payable Accrual	27,139.28	
Federal and State Taxes Payable	8,509.89	
Reserve for Workmen's Compensation	16,848.70	
Blue Cross-Blue Shield Premiums Payable	837.96	
United Fund Contributions Payable	—0—	
Deferred Income—Special Funds	57,778.39	
Fiduciary Exchange Accounts	2,316.12	
		124,169.13

TREASURER'S EQUITY

Treasurer's Equity 9/29/63	827,516.54	
Add: Cash from Treasurer (Year to Date)	600,000.00	
Cumulative Depreciation (Current Year)	146,326.95	
	1,573,843.49	
Less: Operating Surplus (Year to Date) $ 23,584.16		
Disbursements—Special Funds (Year to Date)	(774,093.71)	
Disbursements—Capital Additions	(194,451.36)	(944,960.91)
Treasurer's Equity 9/30/64		628,882.58
TOTAL LIABILITIES AND TREASURER'S EQUITY		753,051.71

McLean Hospital

OPERATING STATEMENT

	Current Year 9/30/63 — 9/30/64	*Previous Year* 10/1/62 — 9/29/63
	(367 Days)	(364 Days)
Patient Days	83,479	78,265
Average Daily Census	227	215
Percent of Occupancy (Cap. 278 Beds)	82	77
INCOME		
Room and Care	$3,218,429.00	$3,025,573.00
Day Care	103,298.00	73,445.65
Night Care	14,274.50	8,839.50
Outpatient Clinic	7,030.00	—0—
Other Patient Income	613,729.00	470,546.48
Other Non-Patient Income	258,027.09	187,170.48
TOTAL OPERATING INCOME	$4,214,787.59	$3,765,575.11
DEDUCTIONS FROM INCOME		
Free Service—Inpatients	$ 247,750.21	$ 271,337.00
Free Service—Day and Night Care	10,757.75	7,958.00
Free Service—Outpatient Clinic	2,884.00	—0—
Free Service—Other	13,018.98	—0—
Courtesy Allowance	20,564.00	34,220.00
Provision for Doubtful Accounts	84,191.69	69,200.00
TOTAL DEDUCTIONS FROM INCOME	$ 379,166.63	$ 382,715.00
NET OPERATING INCOME	$3,835,620.96	$3,382,860.11
EXPENSES		
Salaries and Wages—Nursing	$1,182,931.73	$1,070,942.14
Salaries and Wages—Other	1,489,121.17	1,360,887.26
Supplies	452,368.48	422,314.34
Outside Services	312,045.10	272,009.94
Depreciation	146,326.95	87,843.10
Other Expenses	229,243.37	205,471.56
TOTAL EXPENSES	$3,812,036.80	$3,419,468.34
NET OPERATING SURPLUS OR (DEFICIT)	$ 23,584.16	$ (36,608.23)
Treasurer's Income	$ 62,922.61	$ 57,634.54
Less: Treasurer's Expenses	23,741.28	18,531.25
Net Treasurer's Income	$ 39,181.33	$ 39,103.29
NET SURPLUS	$ 62,765.49	$ 2,495.06

Report of the Psychiatrist in Chief

The Program of Psychiatric, Social Science, and Psychological Research

DURING the year the research program in psychiatry and in the social and behavioral sciences was considerably strengthened as a result of the reorganization of the hospital, begun in 1962 with Dr. Francis de Marneffe's assumption of the position of Director and followed by Dr. Samuel Silverman's joining the hospital program as Director of Clinical Psychiatry in 1963. These had the effect of freeing the Psychiatrist in Chief for the further development of the research program in psychiatry and its closely related behavioral sciences. The serious loss involved in Dr. Silverman's planned departure to join the General Hospital psychiatric program will inevitably slow down the further research development to some extent, but it is likely that some shifting of responsibilities will mean the preservation of nearly all of the work currently under way.

Harvey Shein, M.D., and Samuel Barondes, M.D., whose work is described in the report from the Research Laboratory, each began experimental studies in fields new to the hospital program; their work in both the clinical and the biological areas at the same time is a product of the hospital's commitment to various areas of pertinent research, and of the laboratory being located within a hospital context.

Norbett Mintz, Ph.D., will join the Psychology staff of the hospital during the coming year to initiate a community psychiatric research program. While his first project will be to complete a study of the relation of birth order to proneness toward schizophrenia in childhood and adolescent schizophrenia—preliminary evidence suggests their differing background—his major commitment will be in the important area of ethnic differences in the development and character of major psychiatric disorders.

The activities of the psychiatric research groups will be described under several headings:

Hospital Social Structure

The relevance of the hospital as an environment within which the phenomena of psychiatric disorder occur, are affected, and have effects,

has become more apparent with greater ability to study it. All psychiatric disorder shows itself in some form of altered interpersonal behavior, and all interpersonal behavior fits the context within which it occurs, more or less adaptively. As a corollary, all psychiatric disorder is affected, in varying ways, by the context of which it is a part. These considerations form the general grounds for the widespread interest among psychiatrists in milieu therapy—an interest which is warranted both by its practical value in therapy, and by its theoretical import in furnishing a way into studying the nature of psychiatric disorder.

Stanley Eldred, M.D., began the second part of his analysis of the social interaction of acute and chronic schizophrenic patients. He will compare 30 acute and 30 chronic schizophrenic women, making use of a number of systematic objective measures, including several developed by his group of workers. He is counting all interactions between staff and patients on the ward for systematically selected time samples, scoring time, place, purpose, initiator, type of response, and the types of effects of each interaction. These measurements will be related to the type of pre-hospitalization illness, to the other treatment variables, and to systematically conducted appraisals of progress using both clinical evaluation and standardized ratings. All instruments have been fully developed, and their reliability assessed. These observations will make available a wealth of comparisons—the relation of clinical changes to social changes, contribution of length of hospitalization to clinical and social participation, mechanism of effect of certain variables now well recognized as having predictive value for improvement from the particular attack, as well as clarifying the clear but not yet measured differences between patients who show signs interpreted as "chronicity" and those without them. Characteristics of staff behavior can also be studied in relation to staff personality measures and to features of the patient social behavior.

Murray Melbin, Ph.D., is continuing his study of the general hypothesis that uncertainty within an organization breeds withdrawal, a finding of his previous comparison of absenteeism among aides in several hospitals. He has collected critical data on the hospital wards including certain staff characteristics related to planned and actual work assignments, days off, and other pertinent data, hospital census, and personnel turnover, and is studying their relations. His material permits his

simulating the requirements of the ward and the events occurring among the nursing personnel on the basis of considerable, actual, and some assumed values for variables; from this he is able to develop arrangements which predict a minimizing of staff turnover and of staff uncertainty, and to develop appropriate models for work assignment. While the value of minimizing personnel shifts in both time and location among wards is now widely recognized, the techniques of accomplishing it are not well developed. The task is intrinsically one of interacting complexity which should be expected to yield to modern analysis. Its considerable practical importance in hospital administration does not, however, obscure its generalized theoretical import in the problems of personal adaptation to bureaucratic demands.

Merton Kahne, M.D., has developed his previous observations of patient adaptation to bureaucracy in the hospital to a more defined and rigorous study of suicide in psychiatric hospitals. While this is, unfortunately, still a relatively tabooed subject for scientific scrutiny, he has been successful in obtaining usable data from four different hospitals. A general review of the field confirmed the paucity of serious data regarding the prediction of suicide in spite of its daily pertinence in the psychiatric hospital—a large fraction of patients are hospitalized because of suicide attempts or preoccupation. Dr. Kahne has applied a number of unusual statistical analyses to show the significance of suicide occurring in non-random time sequences, influenced, among other things, by personnel turnover. He is analyzing measures of therapist's attitudes and characteristics in relation to suicide. A central finding relates patient suicide to anomie—relative structurelessness—in the hospital ward; he has developed some ways of obtaining measures of anomie whose value he is analyzing.

Maurice Vanderpol, M.D., and Alfred Stanton, M.D., are completing a study of changes ensuing in almost one-third of a group of patients, chosen in another hospital, for transfer from one hospital to another on the basis of their being stationary clinically at an arbitrary time. Such a fortunately unusual opportunity to observe the equivalent of an experiment led to findings which suggest the likelihood of changes being more frequently beneficial than is usually anticipated in the management of patients.

Education and Treatment

At any one time, the hospital has about two-thirds as many staff and

personnel in training status as it has patients; the inevitable impact is an extremely active treatment program and a considerable interest in education. At the same time, the large number of younger patients admitted at a time in life when they need to be working in school, has given education a significant place in the hospital's clinical program.

Helen Kenney, Ed.D., William Kvaraceus, Ed.D., and Francis de Marneffe, M.D., have undertaken an analysis of the characteristic problems involved in conducting an active educational program, at a level similar to that of accredited schools, to patients emotionally ill to the extent that they require hospital treatment. These problems are both social, emotional, and educational, and they are important for both patients and for teachers. They have nearly completed a preliminary systematic survey of the interactional, educational, and management problems experienced by teachers; identifying these problems will be of increasing importance as more teachers for the emotionally handicapped are being trained. This pilot study has led to instruments which they will use in a more general study of the Arlington School; it will include the analysis of learning difficulties and abilities of patients of differing characteristics.

Rose Coser, Ph.D., continued her longitudinal study of the development of the psychiatric residents at the hospital. Residents are fully trained physicians when they reach their residency, but the procedures and values of the psychiatric hospital are often so different from those of their previous training experiences as almost to risk culture shock. While basically a physician, the modern psychiatrist relies so heavily upon verbal influence and analysis, and his subject matter of study is so largely social and personal in character, that he is often at a great disadvantage at the beginning of his residency. Careful systematic individual supervision of psychotherapy is a usually new experience, as is much of his work. Dr. Coser has interviewed several "cohorts" of residents and followed them through their three years of formal training, at the same time interviewing their staff teachers systematically. The development of consensus, of "psychiatric values" and of competence (and its recognition), are current areas of her interest, and she has used measures which permit their systematic analysis and comparison. The year saw the beginning of analysis of her data and the last of her collecting of new data.

Robert Schnitzer, Ph.D., and Doctors Stanton, Kahne, Vanderpol,

Coleman, and Mr. Darrell Brown began the process of isolating significant variables in the study of the effect of psychotherapy with schizophrenic patients. While most current psychiatrists are convinced of the at least partial value of psychotherapy with this large and significant group of patients, the range, effectiveness, and comparative effectiveness, and the mechanisms of its effect have been studied only clinically for the most part. The large program at McLean lends itself to taking a leading position in a field which is only now ready for systematic analytic study. They are developing variables of assumed pertinence and measurability for application to recorded psychotherapeutic interviews.

The Family

The Social Science Department at McLean includes the editors of two recent books on the family—Norman Bell, Ph.D., and Dr. Coser. The analysis of family interaction with institutions and with emotionally handicapped patients is an area which must be developed fully at the hospital; although difficult, the methods of small group analysis perfected during the past decade bring the family more fully into reach of analytic study, and in view of its close relationship to obvious manifestations of most psychiatric disorders, it occupies a very high priority for study. Dr. Bell has been observing this area for some time, and has recently made an opportunity to study the famous psychiatric emergency programs in Amsterdam, which involve close work with the family. He was in Amsterdam for most of the year working at the Hervormde Stichting Voor Geestelijke Volksgezondheit. There is reason to believe that the American understanding of the Amsterdam program is distorted, and also much reason to suspect that any direct import of Dutch practices will fail. Dr. Bell's analysis of these problems will come from a two-year period of study directly in the Amsterdam program.

Experimental Study of Psychopathology

Thomas Harford, Ph.D., and Leonard Solomon, Ph.D., brought to completion during the year a study of trust and mistrust in paranoid, schizophrenic, and normal subjects. They used a two-person "prisoner's dilemma" contrived game with two programmed strategies to simulate a type of play by the subjects—a cooperative strategy, and an uncooperative strategy which was immediately followed by a coopera-

tive strategy. Analysis of variance showed a significantly higher level of trust among the patients than the college student controls; the levels of trust displayed by paranoid patients were unaffected by differing game strategies; the other groups responded to differing game strategies.

Irene (Pierce) Stiver, Ph.D., further analyzed her experimental study of perceptual defense—the isolation of a tendency not to notice or perceive objects with certain types of meaning which has been extensively reported in the literature. Words of apparent hostile connotations were offered in the tachistoscope to normal and patient groups, compared with neutral words. Persons with higher thresholds for hostile words were not patients with distinctive patterns of hostile behavior on the wards. A test of differential memory also failed to discriminate those with high from those with low thresholds.

Neurobiology

Howard Hermann, M.D., opened a new laboratory at the hospital during the year, its first neurophysiological laboratory. He is studying phototropic behavior in the crayfish. The crayfish shows an aversive walking response to abdominal light stimulation. The "brain operator" characteristics are being isolated and analyzed using new laboratory computational facilities. The peripheral phototransducer is composed of only two single units which act independently of each other; one unit alone will trigger the walk response.

Clinical Studies

A general survey indicated that all patients hospitalized in the Boston area following upon the experimental use of psilocybin in recent years have been admitted to McLean. Dorr Hallenbeck, Jr., M.D., has undertaken a clinical analysis of these cases; initial results of his analysis indicate that the relationship between psychosis and drug intake is not as close as had been expected.

Stephen Washburn, M.D., is developing instruments for the systematic appraisal of the effects of Day Care treatment at the hospital; the program is being used in a somewhat novel way at the hospital, in close relationship to intensive psychotherapy in most cases, and its contribution is a heavy one to the total treatment program. However, its development requires the best practical ways of appraising the program while it is in the developmental period.

Miss Golda Edinburg and Mrs. Mollie Grob are undertaking a systematic follow-up of all 67 adolescent patients admitted during a recent specified period, focusing upon the varying types of social work contributions during and after hospitalization. The data needed may develop into the basis for better storing and retrieval of clinical information at the hospital for research and clinical purposes of a more general nature. A survey of the patients' characteristics at admission and during the initial period of hospital stay has been completed.

The clinical and social psychiatric research group has grown progressively for the past several years, and should be expected to continue both in size and in direction and areas of study. Its recent development has been in close relation with the clinical psychiatric program, attracting an increasing amount of interest from the clinical practitioners, an interest which should provide the particular strength of the hospital for research in these areas. Serious handicaps remain; previous chiefs of the department of social science have all suffered from the short-term support upon which the program has had to depend largely, and this has led to a turnover which is greater than even an active teaching hospital can maintain without its proving costly in maintaining the activities of the department at an optimal level. All other investigators are unavoidably committed to both teaching and to clinical service simply to keep basic hospital functions at a high level. The increasing strength of the research program will soon require more in the way of leadership by full-time research scholars trained in, but not burdened by, clinical practice. The promise of the hospital in this general field, and the critical importance of greater knowledge of social pathology and its amelioration, surely warrant positions of this type.

ALFRED H. STANTON, M.D.
Psychiatrist in Chief

Report of the Director of Clinical Psychiatry

DURING the past year, innovation and dynamic progress continued to be manifest in the clinical psychiatric program, even as plans for its further development were being considered and prepared.

In March, 1964, McLean Hospital opened an outpatient clinic, located in the Rehabilitation Center, for patients 17 years of age and older. This was a significant event in the long history of the institution. It represented a basic change in the McLean image as an exclusively private psychiatric hospital, relatively isolated from the surrounding communities. In opening the Clinic, McLean began to assume the much broader role of a comprehensive mental health center, having potential for multiple points of contact with and service to the cities and towns around it.

The Outpatient Clinic now offers opportunities for treatment of emotional illnesses, not requiring hospitalization, to people in a socio-economic group who cannot afford private therapy. Fees have been set up on a sliding scale, consistent with the usual practices of other neighboring clinics. Both individual and group psychotherapy are available, as well as diagnostic and consultative services.

Jacob Christ, M.D., Assistant Attending Psychiatrist at the hospital, was appointed Physician-in-Charge of the Outpatient Clinic. He brings with him considerable experience in group psychotherapy and much interest in the problems of outpatient and community psychiatry. Two other psychiatrists, Alfred M. Feingold, M.D., and Leonard J. Friedman, M.D., were added to the Clinic staff as Assistant Attending Psychiatrists, to help with supervision of psychotherapy and with group psychotherapy, respectively. Other members of the hospital staff are contributing their skills to the ever-growing needs of this new clinical department.

Within six months of its opening, which was without formal announcement, 91 patients had already been served, coming from a fairly wide geographical area. There have been referrals from various community agencies, institutions—both schools and other hospitals, private psychiatrists, and staff doctors. About one-fourth were self-referrals or had been referred by their families. The majority of patients have been between 17 and 40 years of age, the oldest being 87.

The establishment of the Outpatient Clinic has broadened the educational facilities available at McLean for the training of residents and medical students. This has not only been a valuable experience for them, but has the great advantage of being readily accessible on the hospital grounds. The Outpatient Clinic, with its initial phases now behind it, looks forward to a broadening development of clinical facilities and services, both for treatment and education, which will enable the hospital to make an outstanding contribution to community psychiatry.

The inpatient psychiatric service was strengthened by the addition of two full-time psychiatrists, George B. Lawson, M.D., and Roy M. Coleman, M.D., to the Staff. There was also a reassignment of clinical administrators, so carried out that each administrator would have the basic clinical responsibility for only one hall, with the exception of Paul R. Dinsmore, M.D., who assumed the direction of Proctor and Upham. These changes appear to have had a considerably beneficial effect on both patients and personnel. It should be noted that Upham, influenced by the dynamic efforts of Richard D. Budson, M.D., a second-year resident, has undergone a renaissance and the revitalized program that is now in effect there is reflected in the improved clinical status of many of the patients on that hall.

A number of psychiatrists were added to the Courtesy Staff and this section of the hospital staff is expected to continue its expansion, making available an even larger pool of competent psychotherapists who could be called on in time of need by the hospital. Irving Kaufman, M.D., with a long and rich experience as child psychiatrist and analyst, joined the Staff as Attending Psychiatrist during the past year and is available for specialized consultations or supervision of psychotherapy in adolescent cases. The number of these patients in the hospital remains at a high level, and they continue to present some of the more challenging clinical problems.

Many of the Assistant Attending Psychiatrists and Clinical Assistants in Psychiatry who had been known previously as "contract therapists" began to meet regularly with the Director of Clinical Psychiatry to discuss matters of particular importance regarding their relationship to the hospital. These psychiatrists carried a substantial load of the psychotherapy of McLean patients and were interested in closer liaison with the hospital. The meetings brought these otherwise rather

separated and peripheral members of the visiting staff into closer contact with each other, afforded a forum for an exchange of views about common problems, and kept them in touch with general developments at McLean. Office housing at the hospital, psychotherapy fee scales, secretarial assistance, participation in various teaching exercises were matters that were discussed with resultant satisfactory action being taken. More recently the academic needs of the group were taken under consideration. A committee was formed to draw up a program of clinical presentations and to review psychiatric literature under the guidance of senior staff members. The meetings will continue and it is felt they will be helpful in building up the morale of this important group and will facilitate their closer ties with the rest of the staff and the hospital.

The Clinical Case Conferences and the Academic Conferences which are held on alternate weeks should include both case presentations and discussions of the best methods of patient care. They should also advance the education and stimulate the thinking of the hospital staff in general. Early in the past year a careful review of the format of these conferences was undertaken, particularly those in which clinical cases are presented. The latter conferences, which had become rather diffuse productions, were streamlined in presentation and, in particular, the focus for discussion was sharpened. It was considered advisable to send out in advance, not only a list of chairmen, presentors, etc., but to include also a brief summary of the subject and problem to be discussed. At the clinical case conference, not only the psychiatrists, but other members of the treatment team involved, would sit as a panel and present relevant material. The participation of the Nursing and Activity Therapies departments was particularly encouraged, whenever indicated. Discussion, while widely distributed in terms of participants, was confined quite consistently to the particular problem under consideration. The result has been well-attended meetings, lively and stimulating participation and discussion, often helpful in the further treatment of the patient presented. The Academic Conferences were drawn from a large list of speakers compiled in advance and scheduled as systematically as possible. A widely diversified group of subjects particularly about on-going work in psychiatry and related fields was selected last year and amongst those who presented papers were a number of distinguished speakers from abroad.

A committee of clinical administrators was assigned the task of reviewing procedures and problems involved in the work-up of newly admitted patients. Their findings are still in process of discussion and review, but they have already touched on still other matters involving methods to further improve patient care, better and more effective use of all modalities of treatment, possible reorganization of the halls into clinical services, introduction of teaching visits by senior psychiatrists assigned on a regular basis, the streamlining and more efficient use of educational facilities for residents and medical students, etc. Thus many interesting and exciting developments are in prospect as McLean keeps in the forefront of clinical psychiatric progress.

SAMUEL SILVERMAN, M.D.
Director of Clinical Psychiatry

Report of the
Associate Director of Clinical Psychiatry

Patient-Staff Community

ELEVEN years ago patient voluntary activities began an organizational trend in the hospital in the Patient Activities Association with such independence from staff support that a special departmental report was added here for them. They developed a voluntary and creative spirit which persists and increases, but there has been a concern that social affairs initiated by patients seem to have been waning. Now it can be said in better perspective that what had appeared to be a lessening spirit among the patients has actually been a mutual increase in social facility of both patient and staff acting together. This has strengthened the personality-building assets of the milieu for patients while adding community responsibilities to the work spectrum of the staff. While it is no longer possible to issue a separate report regarding patient voluntary activities, a very brief picture of the hospital as a community during the year can be outlined.

It is recognized more and more frequently that the community setting to which the patient is related while in individual treatment with drugs or psychotherapy is very pertinent to the results, and treatment in a social vacuum is likely to be barren. Also there are many elements in the environment from which the patient comes and in the hospital itself which may tend to perpetuate his illness. As a result, there is serious attention paid to the inhospital community in a wide variety of areas. For instance, much work is done with the patients' families, especially by social workers, and changes in family dynamics may be important for the patient. Education is the "work" of youngsters, and in an accredited high school on the grounds, qualified teachers engage the patients in study toward a diploma. A voluntary work program within the hospital employee system provides part-time jobs for about 40 patients. Organizations, aided by group social workers, offer a wide variety of activities for special groups, i.e. The Young Adult Lounge and the Adult Social Group. Volunteers from the community help in the Library, on group outings, and with various club activities, especially the Garden Club. Job counseling has helped many patients start work in the community before leaving the hospital; others start

school in the community. Their adjustment at home may be reviewed with a social worker. The Patient-Personnel Conference continues weekly meetings, and, by discussion and debate, staff and patients developed a variety of opinions for community changes in the hospital.

One of the largest parts of the program at the hospital centers around the Activity Therapies Department, where a wide range of artistic, cultural, athletic and social activities are carried on between interested patients and an increasingly responsive staff. Individual cultural activities, particularly writing and music are important; there is some drama. Individual friendships between patients are most influential. The coffee shop is a heavily used socializing area. Television has about the same status that it has in the general community: it is avoided, viewed occasionally or habitually.

The most rigorous effort on the part of staff for patients comes from physicians, nurses, and attendants who, with individual considerateness, try to engage the new and old patients in a life which brings not only individual prescription but also involves all in a group relationship. This is being studied in research and approached also with creative intuition. The mental hospital cannot be anything like the medical hospital, the hotel, the prison, the ranch, the city or the suburbs, but is its own special kind of community. We rely neither on an "open" hospital nor on restrictions although the issue of "control" arises when people are ill. As a result of social activities, both patients and staff are becoming more sensitive to the "aliveness" of their interrelationships, achieving mutual considerateness, enthusiasms and expectations.

There has been a considerable development of hall meetings during the year, and the atmosphere of the halls has come a long way from that of a passive, sick group of patients relying on the prescription and control of the staff. Each hall evolves its group structure independently. Social attitudes appear which in turn affect individual illness; among these are: initiative, sharing and delegation of authority, the capacity to share and discuss, willingness to work, liking and understanding of others, humanization of discipline, and involvement of all in the daily doings.

The hospital community extends its appreciation to a Board of Trustees exceptionally interested in our development.

Associate Director of Clinical Psychiatry
PAUL M. HOWARD, M.D.

Report of

Hospital Population and Statistics 1963-64

1. The total number of patients on the hospital rolls has not increased significantly (2.8%). However, the fact that there is a decrease of 7.0% on admissions and a decrease of 9.6% on discharges means that there was less turnover of patients. While in the previous year the number of discharges was almost the same as the number of admissions, this year there is a decrease of discharges over admissions of 3.1%. The implications of these facts is that patients were treated in the hospital for a somewhat longer period than heretofore.

2. The progressive increase in the younger population of previous years has not continued. The population under age 31 has remained practically the same this year, and the population 51 and over, which had decreased by 8.0% during the previous year, has remained the same.

3. Not only do patients diagnosed as "schizophrenic reaction" still constitute the bulk of patients, but there is a 30.0% increase at the end of this year of patients in the hospital who have been so diagnosed. In contrast, there have been fewer patients in the hospital at the end of this year who have been diagnosed as "personality disorder." This is accounted for by an increase of 66.7% over last year of admissions diagnosed as "schizophrenic reaction," against an increase of only 26.9% in discharges thus diagnosed. As a result, the previous trend of "schizophrenic reaction" gradually becoming a smaller proportion of the population has been reversed this year.

4. The previous year's trend of an increase in diagnosis of "personality disorder" has been similarly reversed. The same reversal, compared to the previous year, occurs in regard to re-admissions. While the previous year, 44.0% of re-admitted patients were diagnosed as "personality disorders" (compared to 27.0% who were diagnosed as "schizophrenic reaction"), this year only 30.0% of re-admitted patients have been diagnosed as "personality disorders" compared to 43.0% of re-admitted patients diagnosed as "schizophrenic reaction."

5. While discharges continued to be predominantly of patients who have been in the hospital for a short period just as in the previous year 12.0% of discharged patients were long term, an insignificant 1.0% less than the previous year.

ROSE LAUB COSER, PH.D.
Associate Sociologist and Acting Chief

McLEAN

TABLE I — PATIENT POPULATION 1963 -

CHARACTERISTIC		Beginning of Year September 30, 1963				Admitted During Year			
Total Number		In Hospital — 218 / On Visit — 28 } 246						359	
SEX	Male	39%				44%			
	Female	61%				56%			
AGE		Male	Female	Total	% of Total	Male	Female	Total	% of Total
	0-20	27	27	54	22	37	30	67	19
	21-30	29	22	51	21	43	45	88	24
	31-40	9	24	33	13	25	47	72	20
	41-50	8	22	30	12	24	34	58	16
	51-60	5	16	21	8	15	17	32	9
	61-70	10	12	22	9	10	12	22	6
	71-80	6	10	16	7	3	11	14	4
	81-Up	4	15	19	8	0	6	6	2
		98	148	246	100	157	202	359	100
DIAGNOSES									
Acute Brain Syndrome		1	1	2	*	1	6	7	2
Chronic Brain Syndrome		11	18	29	12	8	15	23	7
Mental Deficiency		0	0	0	0	0	0	0	0
Involutional Psychotic Reaction		0	4	4	2	1	6	7	2
Affective Reaction		7	9	16	6	11	17	28	8
Schizophrenic Reaction		44	59	103	42	73	71	144	40
Paranoid Reaction		1	2	3	1	0	0	0	*
Psychophysiological Reaction		0	0	0	*	0	1	1	*
Psychoneurotic Depressive Reaction		9	13	22	9	21	19	40	11
Personality Disturbance		17	31	48	20	33	61	94	26
Transient Situational Personality Disorder		8	11	19	8	9	6	15	4
		98	148	246	100	157	202	359	100

*Less than 1%

HOSPITAL

1964 BY SELECTED CHARACTERISTICS

Discharged During Year				Remaining at End September 30, 1964				Change During Year			
		347		In Hospital — 224 On Visit — 34		258				+6 +6	+12
44%				39%				0%			
56%				61%				0%			
Male	Female	Total	% of Total	Male	Female	Total	% of Total	Male	Female	Total	% of Total
40	32	72	22	24	25	49	19	—3	—2	—5	—3
40	36	76	20	32	31	63	25	+3	+9	+12	+4
25	46	71	19	9	25	34	14	0	+1	+1	+1
22	40	62	18	10	16	26	10	+2	—6	—4	—2
12	17	29	9	8	16	24	9	+3	0	+3	+1
10	10	20	6	10	14	24	9	0	+2	+2	0
3	8	11	4	6	13	19	7	0	+3	+3	0
1	5	6	2	3	16	19	7	—1	+1	0	—1
153	194	347	100	102	156	258	100	+4	+8	+12	0
1	7	8	2	1	0	1	*	0	—1	—1	0
8	12	20	6	11	21	32	13	0	+3	+3	+1
0	0	0	0	0	0	0	0	0	0	0	0
1	7	8	2	0	3	3	1	0	—1	—1	—1
17	15	32	9	1	11	12	5	—6	+2	—4	—1
58	56	114	33	59	74	133	52	+15	+15	+30	+10
0	0	0	*	1	2	3	1	0	0	0	0
0	0	0	*	0	1	1	*	0	+1	+1	0
25	23	48	14	5	9	14	5	—4	—4	—8	—4
36	63	99	29	14	29	43	17	—3	—2	—5	—3
7	11	18	5	10	6	16	6	+2	—5	—3	—2
153	194	347	100	102	156	258	100	+4	+8	+12	0

TABLE II — ADMISSIONS 1963-1964
BY PREVIOUS HOSPITAL EXPERIENCE, SEX AND RELATED OTHER CHARACTERISTICS

	1st to Any				*1st to McLean*				*Readm. McLean*				*Total*			
A. SOURCE	M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%
Home	37	45	82	60	19	27	46	43	28	43	71	61	84	115	199	55
General Hospital	10	21	31	23	8	7	15	15	3	10	13	11	21	38	59	16
Psychiatric Hospital	0	0	0	0	19	16	35	33	5	8	13	11	24	24	48	13
Other	10	13	23	17	5	5	10	9	13	7	20	17	28	25	53	16
Total	57	79	136 (38%)	100	51	55	106 (30%)	100	49	68	117 (32%)	100	157	202	359	100
B. DIAGNOSIS																
Acute Brain Syndrome	0	5	5	4	1	1	2	2	0	0	0	0	1	6	7	2
Chronic Brain Syndrome	4	9	13	10	4	3	7	7	0	3	3	2	8	15	23	7
Involutional Psychotic Reaction	1	1	2	2	0	2	2	2	0	3	3	2	1	6	7	2
Affective Reaction	3	1	4	3	4	6	10	9	4	10	14	12	11	17	28	8
Schizophrenic Reaction	22	26	48	35	25	21	46	43	20	30	50	43	67	77	144	40
Psychophysiological Reaction	0	1	1	*	0	0	0	0	0	0	0	0	0	1	1	*
Psychoneurotic Depressive Reaction	8	13	21	15	8	3	11	10	5	3	8	7	21	19	40	11
Personality Disorder	13	21	34	25	9	16	25	24	17	18	35	30	39	55	94	26
Transient Situational Personality Disorder	6	2	8	6	0	3	3	3	3	1	4	4	9	6	15	4
Totals	57	79	136 (38%)	100	51	55	106 (30%)	100	49	68	117 (32%)	100	157	202	359 (100%)	100
C. AGES																
0 — 20	20	13	33	24	11	13	24	23	6	4	10	9	37	30	67	19
21 — 30	13	20	33	24	15	14	29	27	15	11	26	22	43	45	88	24
31 — 40	7	18	25	18	10	11	21	20	8	18	26	22	25	47	72	20
41 — 50	10	9	19	14	9	6	15	14	5	19	24	21	24	34	58	16
51 — 60	3	3	6	4	2	5	7	7	10	9	19	16	15	17	32	9
61 — 70	3	6	9	9	2	3	5	5	5	3	8	7	10	12	22	6
71 — 80	1	7	8	5	2	1	3	3	0	3	3	3	3	11	14	4
81 — Up	0	3	3	2	0	2	2	1	0	1	1	*	0	6	6	2
Total	57	79	136 (38%)	100	51	55	106 (30%)	100	49	68	117 (32%)	100	157	202	359	100

*Less than 1%

McLean Hospital

Table III

Discharges 1963-1964

By Sex and Selected Other Characteristics

DESTINATION	Male	Female	Total	%
Home	103	138	241	70
Psychiatric Hospital	13	24	37	10
General Hospital or Nursing Home	6	6	12	3
School	0	4	4	1
Foster Home	3	1	4	1
Deceased	7	6	13	4
Other	21	15	36	11
	153	194	347	100
CONDITION				
Recovered	2	7	9	3
Much Improved	14	25	39	11
Moderately Improved	53	52	105	31
Slightly Improved	45	60	105	30
Unimproved	31	43	74	21
Worse	1	1	2	*
Deceased	7	6	13	4
	153	194	347	100
LENGTH OF HOSPITALIZATION**				
0 — 10 Days	26	17	43	12
11 — 30	17	40	57	17
31 — 90	45	60	105	30
91 — 365	45	55	100	29
1 — 2 Years	10	15	25	7
2 — 5	6	6	12	3
5 — & over	4	1	5	2
	153	194	347	100

* Less than 1%
**Based on days in residence

Report of the Patient Education Department

ARLINGTON SCHOOL

THIS report will be primarily concerned with the progress and development of the high school program at Arlington School. There are, however, a number of other activities worth mentioning: the inservice program of teacher education; educational programs for the college-age patient; and research into the special problems of educating the emotionally disturbed adolescent. Because of space limitation, only brief mention of central points of interest will be made later in the report regarding these activities.

High School Program

Table I summarizes pertinent statistics and items of information that illustrate the school's progress over the past year. Comparing these data with those reported last year, several trends can be noted. The curriculum is providing a wider range of course work each semester, the expansion taking place as before within the area of academic electives, particularly in the field of languages. The number of tutorials has sharply increased with more than half of them in foreign languages. More teachers have been added to the staff to take care of these new courses, the figure doubling at the beginning of the current academic year from that of a year ago.

The number of students remains about 25 - 30 each semester. With very few exceptions, the students carry a full program of course work throughout the academic year. This means four academic courses and a regular program in Physical Education. Students attend class from 9:00 a.m. to 2:00 p.m. daily with the Physical Education classes scheduled two afternoons a week after class.

The school has been approved by the Town of Belmont School Committee on the recommendation of the Superintendent of Schools who evaluated the faculty qualifications, curriculum, educational resources, and academic standards of Arlington School. Approximately 90% of the students complete course work for credit with a normal distribution of grades.

Since Arlington School is approved by the Belmont Public Schools,

courses taken for credit will be accepted by the Massachusetts Department of Education toward the State High School Equivalency Certificate. Only students whose home residence is in Massachusetts may apply for the Massachusetts certificate. Non-residents of Massachusetts, who desire a High School Equivalency Certificate, must apply to their state of residence. Of 12 students who will be completing high school diploma requirements this year, 10 students are from out-of-state. When it is considered that these students come from seven states with their own requirements for the equivalency certificate, the problems of programming to make sure that these requirements are met can be appreciated. The possibility of having the students at Arlington School qualify for the Massachusetts certificate will be explored with the state Department of Education.

It is expected that 10 students will complete high school diploma requirements at Arlington School by August, 1965, bringing the total to 18. Seven students in this year's senior class are applying to colleges, universities, and technical schools. The Preliminary Scholastic Aptitude Test of the College Entrance Examination Board was administered at the school to five students in October, 1964. The scores were average to above average on the national norms.

While long-term outcomes of education are difficult to assess, useful criteria are what a student learns in school and what he does after he leaves school. Arlington School on its present record compares favorably with regular schools. The basic premise that the emotionally disturbed adolescent can learn and can be taught during his period of hospitalization has held up well in actual experience.

Advanced Program of Study

An area of major concern is the problem of the education of the college-age patient. Tutorials have been part of the general program from the beginning. Two courses (*Ideology and World Affairs* and *Exploring Types of Literature*) were given during the fall semester of the academic year 1963-1964. Dr. John Gibson of Tufts University who gave the course in World Affairs had this to say of his experience:

> I believe these students view the course as an academic presentation and not as therapy. The students' attention span over a period of two hours is superb. There is no break in the two-hour lecture-discussion period.

Mrs. Marie Johnson, a college instructor in literature, commented:

> Comparing these students to those I had taught before, I found them above average in ability, perception, and facility of expression. There was excellent rapport among the students, and I could see them drawing close into a solid unit. I found the group stimulating and the experience rewarding in the sense that any instructor feels satisfaction when he realizes that the class has learned something, has reacted explicitly to the knowledge gained, and has given something fresh and original —his own feelings and interpretations—back to his guide through literature.

On the basis of these encouraging reactions, discussions were begun with a number of local universities to explore the possibility of bringing college-credit courses to the hospital. While college administrators of continuing education and extension programs are interested in such a program, it will take a great deal more discussion and planning before a program of this type can be organized.

Table II shows the registration statistics for the advanced tutorials and college-level courses.

Special Student Services

The demand for educational guidance and counseling service is sharply increasing. Not only do the high school students require supportive guidance while in the program, but the increasing number of students who want to further their education is creating a need for an organized guidance program which can furnish information about educational opportunities and how to take advantage of them. The college-age patient presents similar needs.

During the year a hall instruction program was initiated for one patient who could not come to school. Two teachers were assigned to give regular courses in a room on the hall set aside for this purpose. While the school prefers to give courses in the school building, this kind of transitional program might serve a small number of high school patients who cannot come to the school.

Inservice Teacher Training

The collaboration between the educational and clinical staffs has formed the basis for the teacher training program which is gradually evolving. The current program has been organized to help the teachers:

(1) To understand the common psychological problems of emotionally disturbed adolescents. Discussion based on presented theory and on concrete cases from the teacher's own experience and the experience of the group leader, Lloyd Caplan, M.D.
(2) To become aware of what they can do through their own observations and experiences to handle problems in the classroom. This seminar is led by a consulting psychiatrist, Thomas Frank, M.D.
(3) To apply clinical insights to educational materials and methods.

Meetings with the clinical administrators and their staff together with a seminar led by Helen Kenney, Ed.D., Consultant in Education, form the basis for this aspect of the program.

Research Activities

The research project activated in September, 1962, under a grant from the Medical Foundation, Inc., was completed September, 1964. Data will be analyzed with the final report to be ready for distribution in Spring, 1965.

Facilities

The building was modernized during the summer. The building now consists of 5 classrooms, 2 tutorial rooms, a science laboratory, a library, the Director's office, a secretary's office, a teachers' office, and a one-way observation center equipped with audio-visual aids to permit research and experimentation.

Summary

We believe that the school is making steady progress. A great deal remains to be done before we can reach the goal of educating all of the adolescent patients at McLean Hospital. It is clear that the continuing collaboration of the educational and clinical staffs can bring that goal closer to attainment each year. The faculty at Arlington School, almost all of them new this year, appreciate the cooperation of the clinical staff in helping them to better understand their students.

HELEN J. KENNEY, Ed.D.
Consultant in Education

ELLEN M. RIORDAN, M.Ed.
Director, Arlington School

TABLE I

Summary of Student Enrollment, Curriculum, Faculty
High School Program

	Academic Year 1963-1964		Academic Year 1964-1965	
	Fall Semester	Spring Semester	Summer Session	Fall Semester
No. of Students	21	20	12	27
No. of Courses				
Regular Classes				
English	2	3	–	2
French	5	1	–	–
Spanish	–	1	1	1
Mathematics	2	2	1	1
Science	1	1	–	2
History	2	3	2	2
Art	–	–	1	1
Typing	1	1	–	1
Physical Ed.	1	1	–	1
TOTAL	14	13	5	11
Tutoring				
English	–	2	1	4
French	–	1	–	2
Spanish	–	–	–	4
Russian	–	–	–	2
Hebrew	–	–	–	1
Botany	–	–	–	1
History	–	1	1	3
Mathematics	2	2	1	3
Remedial	–	–	1	–
Reading	1	–	1	–
Typing	–	–	–	–
TOTAL	3	6	5	20
FACULTY				
Full-time	4*	4*	4*	4*
Part-time	6	7	–	7
Tutors	2	2	4	12
TOTAL	12	13	8	23

* — Includes Director of School

TABLE II
Academic Year
1963-1964

		Number of Students
Fall Semester		
	Tutorials	2
	Exploring Types of Literature	10
	Ideology and World Affairs	9
Spring Semester		
	Tutorials	5
Summer Session		
	Tutorials	1

Report of the Director of Internal Medicine

THE patient census has been near its maximum during much of the year and the work load with it. The work load is actually affected not only by the patient census, but also by the admission rate, since most patients require the attention of the Department of Internal Medicine only at, and shortly after admission. The fact that many patients who are admitted stay only a short while increases the work of all departments to a degree out of proportion to the number of beds occupied.

Patients who are at the hospital only for Day Care have created a problem in medical ethics. Although it is evident that the hospital is responsible for the total physical well-being of all resident patients, it is by no means established that the hospital is responsible for the total physical well-being of patients who are on the grounds only for a few hours a day, four or five days a week. In such cases the patients' family physicians have a strong claim to the responsibilities (and rewards) of the patients' total physical care, barring, of course, emergencies which might arise during a patient's visit to the hospital. In fact, a family physician could properly conclude that the hospital's assumption of responsibility for total physical care for patients on Day Care constituted an unethical interference with his prerogatives. Despite these and other problems Hershel Jick, M.D., Lloyd G. Potter, M.D., and Dennis Slone, M.D., continue to serve with relaxed competence despite the generally uninspiring character of their work.

During 1963 the number of prescriptions filled by the Pharmacy increased by 5675 over the number filled in 1962. In 1964 the increase over 1963 amounted to 5542. The fairly constant increase year-by-year is a reflection not only of the increased patient load, but also of the staff's increasing use of the drugs that have come to be accepted as of value in the treatment of mental disorders. Since the Pharmacy was built to accommodate a much smaller load, it is to be expected that Mr. George Zager will be subjected to increasing pressures of various sorts. These pressures are in no way diminished by the indifference of many staff physicians to the necessity of having drug requisitions and prescriptions presented a reasonable interval before closing time.

Both Mr. Zager and his assistant continue to perform with remarkable efficiency and at least outward equanimity despite the adverse conditions.

The increase in X-Ray examinations in 1963 as compared to 1962 was 61, i.e. from 1410 to 1471. In 1964 the number was 1526, an increase of 55. Again the number of chest roentgenograms made up a large majority, i.e. 1018. The Department under the direction of Majic Potsaid, M.D., and Mr. Herbert Davidson, technician, does work which is the envy—often grudingly so—of larger and more famous X-Ray Departments. One roentgenologist from a general hospital was heard to opine that all the patients given X-Ray examinations at McLean Hospital must be catatonic because defects owing to motion never occurred.

The Clinical Laboratory had a change in personnel in 1964. Mr. Joseph Giancola left for a much more remunerative and less demanding position. Miss Brenda Senior has replaced him and the increasing amount of work is being handled with smooth efficiency. The problems of what happens to test reports after they leave the Laboratory, and why some of them end up where they do, continue to be sources of wonderment to students of administrative procedure.

MARK D. ALTSCHULE, M. D.
Director of Internal Medicine

Report of the Director of Research in Clinical Physiology

THE activities of the laboratory during the past year have continued unchanged in some ways and have expanded in others. The expansion has involved an increase in educational activities. For example the laboratory staff, which for years has given between 100 and 200 informal consultations with respect to various aspects of treatment, now in addition gives a formal seminar for hospital residents; however, only a few of them attend. An identical seminar is given once a month at the Rhode Island State Hospital and is attended by its entire full-time staff.

The previously described work on the aminochromes that has been found in the blood has been extended. Several families in which members in both the paternal and maternal lines exhibited hyperaminochromia are being studied. The presence of the biochemical abnormality is associated with a wide range of psychiatric disorders in different members of the same family. Extension of these observations still waits on making the method used more reliable and less time-consuming.

As the isolation and purification of the active material in the pineal extracts which ameliorate hyperaminochromia continue, the expenditure of effort in proportion to the information gained increases with each step. At the moment the material has been purified one thousandfold. It is still not pure.

MARK D. ALTSCHULE, M.D.
Director of Research in Clinical Physiology

Report of the Director of Scientific Research

DURING 1964, Francis N. LeBaron, Ph.D., resigned his position to become Associate Professor of Biochemistry at the School of Medicine of the University of New Mexico, Albuquerque, New Mexico. Although this is an irreparable loss to the laboratory, the new position represents a unique opportunity for Dr. LeBaron to expand his activities and his effectiveness, and he could not overlook it. Besides this unexpected resignation, a number of people left the staff as scheduled. Albert Soloway, Ph.D., finished his period of training early in the year; Ruth M. Landolt, M.D., returned to Zurich in April; Raul Hinojosa, M.D., moved to HMS in July; Howard S. Maker, M.D., moved to the Mt. Sinai Hospital in New York City in August; Yasuo Takahashi, M.D., returned to Niigata, Japan in September; Albert Bischoff, M.D., returned to Zurich in October; and Richard N. Lolley, Ph.D., moved to Los Angeles at the end of the year.

Six new people joined the staff. Chaim I. Mayman, M.D., a Canadian physician trained in neurology and neuropathology, joined the staff in January as a USPHS fellow. In February Luigi A. Amaducci, M.D., came from Italy for a two-month stay on a NATO fellowship. Robert B. Scoggins, M.D., joined in July, assigned by the Department of Dermatology of the M.G.H. John L. Fuller, Ph.D., who is on leave of absence from the Jackson Memorial Laboratory in Bar Harbor, Maine, joined in September. Joseph Eichberg, Ph.D., in Biochemistry from Harvard, joined in November, 1964, after having spent two years with R.M.C. Dawson at Babraham, England. Samy G. Frenk, Ph.D., a Rockefeller Fellow, and Jeanna Levinthal, Ph.D., from the Department of Bacteriology and Immunology at HMS, also joined in November. Finally, two psychiatric residents, Samuel H. Barondes, M.D., and Harvey M. Shein, M.D., also took part in the work of the laboratory.

With these and other changes the Research Laboratory staff comprised at the end of 1964, seventeen professional people, ten research assistants, four laboratory assistants, three secretaries, and three graduate students, and one photographer, a total of thirty-eight people, and a decrease of three people from the level at the end of 1963. This decrease represents no contraction in activities, but a period of transition between the ending of Dr. LeBaron's program and the initiation

of new programs. In fact, it is offset by the participation of Doctors Barondes and Shein.

For current operations the laboratory received in the calendar year $222,394 from the United States Public Health Service, $78,000 from the National Science Foundation, $8,810 from the American Heart Association and $3,870 from other sources, a total of $310,074.

Of the funds received, the grant from the National Science Foundation is for use during the calendar years 1965-66. On the other hand, the Laboratory has spent during the year about $36,000 from the preceding grant of the National Science Foundation and about $30,000 from the original grant for the "Study of the Dynamic Equilibrium of Brain Structure Components." Hence, the actual *contribution to current* expenses for the year has been $310,074 — 34,072 — 78,000 + 36,000 + 30,000 = $264,002. This compares with $282,057 used in 1963. The slight reduction from last year reflecting the discontinuation of Dr. LeBaron's project. The anticipated rate for 1965 will more than erase the difference.

The scientific work carried out during the year was reviewed by the Advisory Committee on January 22, 1965. It is summarized below under three different headings, namely, *Biochemical Studies,* prepared by the undersigned; *Neuropathological Studies,* prepared by Alfred Pope, M.D.; and *Biophysical Studies,* prepared by J. David Robertson, M.D., Ph.D.

Biochemical Studies

The work during the year has been the continuation and expansion of earlier projects and has dealt mainly with different aspects of the biochemistry of macromolecular aggregates, such as proteolipids, which underlie the recognizable structure of the nervous tissue. It has been concerned specifically with the purification of proteolipids, their physico-chemical study, the investigation of their "water-soluble" form, their biosynthesis, their reactivity towards amino acids and biogenic amines; with the determination of sialic acid; with the fractionation of gangliosides, the interaction of gangliosides with cations, and the role of peptides found in strandin preparations; with the chemical structure of cerebrosides, sulfatides and gangliosides in health and in disease, and in different species; with the study of phosphatidopeptides; with the fractionation of water soluble proteins; with the metabolism of inositol and of other carbohydrate moieties constitutent of lipids; with

experimental thiamin deficiency; and to a small extent, with axonal plasma flow and the possible role of RNA on memory and learning.

In the case of proteolipids, Jordi Folch-Pi, M.D., has attempted to isolate proteolipids from total lipid extracts by countercurrent distribution. A solvent system has been found that will carry out such separation and which holds the promise of possible automation of the purification procedure.

Miss Davita Tenenbaum has continued her study of the water-soluble proteolipid that she had obtained last year by dialysis of proteolipid preparations in acidified organic solvents followed by gradual change of the dialysis media to pure water. She has standardized and simplified the original procedure with the result that a better product is obtained. She has observed that the change that occurs in the proteolipid molecule as a consequence of the exposure to acid and to solvent mixtures of gradually increasing polarity and which renders proteolipid soluble in aqueous solvents is not caused only by the exposure to acid, but must necessarily involve major changes during the protracted dialysis. Indeed, exposure to acid alone has no effect. By gel filtration she has found that the water-soluble proteolipid has a molecular or micellar size above 100,000 and is otherwise physically heterogeneous. Finally she has found that although the new proteolipid is attacked by pronase, so is the intact proteolipid, the insolubility of the latter simply resulting in a much lower rate of preoteolysis, but without apparently any change in the final extent of hydrolysis.

Mr. Jan Breslow has repeated the measurements of optical rotatory dispersion in various proteolipid preparation. He has confirmed the high α-helical content of the intact proteolipid, and the great decrease in helix content in the proteolipid prepared by Miss Tenenbaum.

Lewis C. Mokrasch, Ph.D., and his group have continued the study of the biosynthesis of proteolipids, and of the non-enzymatic reactivity of proteolipids towards amino acids, lipids and biogenic amines. The study of the incorporation of labeled amino acids in proteolipids in particulate brain preparations has confirmed the incorporation in the core of the proteolipid molecule and it has established further that this enzymatic incorporation is not affected by many agents known to have effect on other protein synthesizing systems, and by many agents that can modify membranes. No precursor relationship between water soluble protein and aminoacyl RNA, and proteolipids has been found.

The study of the incorporation of lipids into proteolipids had required the development of a method of purification of proteolipids that will permit the removal of free labeled lipids. The method devised is subject to improvement but already allows for the preliminary study of the incorporation. It has been found that proteolipids will bind or incorporate lipids in chloroform-methanol media. Different lipids are incorporated at different rates, monophosphoinositide and phosphatidylserine being the lipids that are incorporated to the greatest extent, among a variety of lipids tested. With brain particles, palmitate is incoporated readily, but phosphatides are not. Upon breaking up the tissue particles or treating them with triton, labeled total brain lipids appear to incorporate into the proteolipid of nuclear preparations. Some fractions of these lipids obtained from DEAE columns, incorporate at different rates, triphosphoinositide showing the lowest rate.

A study of the interaction of proteolipids with biogenic amines has shown that purified proteolipids will take up tryptamine in aqueous but not in chloroform-methanol media. The uptake is time dependent and follows zero order kinetics up to two hours at 39°. The uptake is inhibited to various extents by compounds of chemical structure close to that of tryptamine, and is completely prevented by heating the proteolipid to 100°. Although no direct evidence of covalent bonding between tryptamine and proteolipids has yet been obtained, the bond withstands treatment by many agents that are known to dissociate different types of non-covalent bonds.

In the study of gangliosides, Dr. Folch-Pi's group has refined the browning reaction of sialic acid with mineral acids greatly increasing its specificity and sensitivity. Interference by other carbohydrates is essentially eliminated, without the need of correction factors or of dichromatic readings. The accidental observation that ascorbic acid greatly and specifically increases the color produced has permitted refining the method for use at a present scale of 1 to 10 micrograms, and at a theoretically possible scale 10 to 20 times smaller. Dr. Takahashi has studied an observed fluorescence of the product of the action of acid on sialic acid and has shown it to be utilizable for quantitative determination in a tenfold range, between 0.5 and 5 micrograms. However, many substances appear to interfere, not by spurious fluorescence, but by quenching of the fluorescence of sialic acid.

Mr. Richard H. Quarles has continued the study of interaction

between cations and gangliosides. He has further defined the action of calcium salts which last year had been reported to partition gangliosides into the least polar phase of a biphasic system, whereas in absence of salt, or in presence of Na, K, or Mg salts, the ganglioside would have partitioned into the polar phase. He has established that the calcium effect is concentration dependent.

Partitioning of gangliosides into the lower phase occurs over a wide range of concentrations of $CaCl_2$, below and above which no partitioning occurs. The ganglioside is partitioned as its calcium salt. There are transition zones of intermediate partitioning at each end of the range of effective concentrations. The competitive action of other cations diminishes the effect of calcium but at high concentrations of other calcium cations appear to have an additive, not a competitive effect. The observation is compatible with ganglioside being present at high cation concentrations as a ganglioside-chloride double salt of calcium.

Results already published had established that ganglioside preparations contain peptides in undialyzable form, and that they may possibly play a part in determining the micellar pattern of ganglioside emulsions in water. Mr. Quarles had observed that the concentration of peptide in the gangliosides tested correlated with a diminution, or a total occlusion of the effect of calcium. Pursuant to this observation, Mr. Quarles has attempted to fractionate gangliosides on a DEAE column, eluted with methanol on a 0-100% acetic acid gradient. The preliminary observations show the bulk of the peptide being eluted below 10% acetic acid, but the gangliosides that are eluted subsequently still contain reduced but definite amounts of peptide. Similar results, i.e., the apparent inability to eliminate completely the peptide in ganglioside preparations have been observed with countercurrent distribution in which peptide is also obtained as a discreet fraction, but some still remains in all of the ganglioside fractions.

The group under Ann M. Stoffyn, Ph.D., and Pierre J. Stoffyn, Ph.D., has continued its extensive studies on the chemistry of cerebrosides, sulfatides and gangliosides in health and in disease. They have compared ceramide (fatty acid-sphingosine) and psychosine (sphingosine-galactose) obtained from degradation of cerebrosides with ceramide and psychosine obtained from sulfatides and they have found them to be identical, thus establishing that sulfatides are simple sulfate esters

of cerebrosides. They have investigated the fact that on alkaline hydrolysis cerasine yields a lower proportion of psychosine than does phrenosine, and they have eliminated the possibility that the behavior of cerasine might be attributed to its belonging to the group of "alkali sensitive glycosides." They have engaged in an extensive exploration of possible ways of obtaining galactose 3-sulfate and psychosine 3-sulfate from cerebrosides and sulfatides, not only for their intrinsic interest, but for their possible use in the study of the biosynthesis of sulfatides.

Miss Gail Mulligan appears to have obtained unequivocal proof that the anomeric configuration of the glycosidic linkage in cerebrosides and sulfatides is a β-linkage.

In a continuing study of pathological brains, Michael J. Malone, M.D., has found that the sulfate in brain sulfatides from one case of metachromatic leukodystrophy is solely in position C-3 of galactose as it is in normal adult human, and normal infant. Also in a case of Metachromatic Leucodystrophy the fatty acids of kidney sulfatides have been found to be markedly different from those of brain sulfatides. No sulfatides have been found in spleen.

In a natural extension of this work, the brain glycolipids of sea lion have been studied because it has been reported that the milk in this species is essentially free of carbohydrates, and that their intestinal tract can not digest disaccharides. The cerebrosides and sulfatides obtained have been found to contain galactose only and gangliosides appear to have also a composition comparable to that in human and bovine brain.

Dr. LeBaron's group has continued its study on various aspects of the biochemistry of phosphatidopeptides, these inositol containing lipid-peptide complexes which can only be extracted from the tissue with acidified organic solvents, and which contain a phosphate group of high metabolic activity. Pursuant to their work last year that showed that essentially all of the P in phosphatidopeptides is triphosphoinositide, they have now studied the fatty acids constituent of phosphatidopeptides and found them to be identical to those found in triphosphoinositide isolated in other laboratories. They have studied the distribution of phosphatidopeptides in different tissue particle fractions and they have found them mainly in the myelin fraction, and, at much lower concentration, in the glia-rich fraction.

Mr. Russell Martenson, in the same group, has continued his study

of the "viscous" protein fraction of brain which had been fractionated earlier into a pH soluble (S-7) and a pH 7 insoluble (I-7) fractions. The latter had been further fractionated into three distinct subfractions by chromatography on carboxymethyl cellulose. During the year, two additional fractions have been obtained from I-7. By gel filtration on Sephadex G-100, fraction S-7 appears to consist of material of molecular weight below 100,000, and, I-7 of material of larger size. The subfractions from I-7 show the one which is high in hexonic bases to be of lower molecular size than the one that is much more acidic. It has also been found that all of the inositol from the viscous protein is found in I-7.

With the departure of Dr. LeBaron this active program will be in part continued by Dr. LeBaron at his new location and in part absorbed into other programs.

George P. Hauser, Ph.D., has continued his broad study of the metabolism of the carbohydrate moieties of lipids. He has completed his work on the effect of 2-0, C-methylene myoinositol, on inositol metabolism, by documenting and extending the observations reported last year. The renal lesion that follows the injection of the metabolic antagonist produces a 43% increase in tissue water, and the kidney slices show necrosis. By comparison, the metabolic disturbances in brain tissue do not appear to result in a morphological counterpart. There is doubt if the primary lesion that initiates the fatal sequence of events is the interference with inositol metabolism. Dr. Hauser has continued the study of the biosynthesis of free inositol in vitro, and its relation to phosphatides, both in brain and kidney, and has further documented the interesting differences between the two tissues. In developing rats, it has been found that the ability of brain slices to synthesize inositol decreased, with age, from 2 to 26 days, while the ability of incorporate inositol shows the opposite change. No difference has been found between guinea pig and rat kidney slices as to ability to incorporate glucose-U-C^{14} into lipids, free and phosphatide inositol, and phosphatide glycerol. Dr. Hauser has also studied, in slices from kidney, and also from other tissues, the existence of possible transport mechanisms that would account for the concentration gradient in favor of the tissue that is found in the animals. The numerous observations made do not yet fall into a clear pattern but they point to the existence in kidney of mechanisms not found in other tissues.

Dr. Hauser and Dr. Maker have studied the biosynthesis of lipids in brain slices during development from 2 to 26 days of age. They have also studied the content of various lipid categories in brain at different ages. They have found the expected increases with age. The ability of slices to synthesize lipids from glucose shows a rapid falling off with age which in the case of cholesterol and phospholipids, is at 26 days less than 1/5 that found in two day rats. For galactolipids and cerebrosides the reduction is even more marked. At 0°, the incorporations observed 2 to 4% those found at 37°.

Dr. Hauser has continued the collaborative work with Pierre M. Dreyfus, M.D., on the biochemical effects of experimental thiamin deficiency in rats. He has expanded and confirmed his previous observations that in deficient animals the ability of brain tissue to decarboxylate pyruvic acid is fairly well preserved, whereas in heart, kidney, and liver, it is markedly decreased, even in asymptomatic animals. Pyruvic decarboxylase activity has been found to be highest in neuronal aggregates, while transketolase appears to be most active in myelinated tracts.

As initiation of a new program, Dr. Barondes, a psychiatric resident, has contributed to the work of the Laboratory on a part-time basis. Using leucine as a label, he has been able to obtain evidence compatible with the axoplasmic flow of protein from neuronal soma to synaptic endings in brain. In collaboration with Mr. Harry Cohen, he has investigated the effect of RNA injections on learning and memory, in mice, and has failed to find any difference between the performance of these animals and the control group.

Neuropathological Studies

(This section of the report submitted by Alfred Pope, M.D.)

The activities of the neuropathological section of the Research Laboratory during 1964 have continued to involve use of the principles and techniques of quantitative histochemistry as applied to selected problems in regional neurochemistry and neuropathology, but with reorganization in such a way that the microchemical program may be considered under the following principal headings:

Microchemical Pathology of Human Nervous System (Alfred Pope, M.D., and associates). Studies are continuing on the biochemical architecture of normal and diseased cerebral cortex in accordance with

the rationale, experimental design, and microchemical techniques discussed in previous reports. Experiments on the intralaminar profiles of gangliosides in normal frontal isocortex have been initiated (Helen Hess, M.D., and Miss Caroline Thalheimer). Preliminary results suggest that this complex lipid is distributed in a manner similar to that previously found for other probable neural plasma membrane constituents. In the series of studies on cortical chemiarchitecture in the organic dementias, enzyme activities (acetylcholinesterase, lipase, and dipeptidase) and the concentrations of total lipids, total proteins, and DNA have been determined in a far advanced case of Pick's disease. (Dr. Pope and Miss Thalheimer). AChE activity was greatly reduced in the cortex corresponding with virtual absence of normal-appearing neurons. Proteolytic activity was also low, but lipase activity was within normal limits. All of these hydrolases were normally active in the subjacent white matter.

Relevant to the long range program on cortical chemoarchitectonics are studies now in progress by Dr. Fuller. These are concerned with sodium-potassium-magnesium activated adenosine triphosphatase activity in developing neonatal mouse cortex in relation to the transient susceptibility of selected genetic strains to audiogenic seizures. Na-K-Mg-ATPase is being studied as an index of membrane ion transport potential and thus as a measure of probable neuronal activity.

A number of microchemical determinations on well-differentiated oligodendroglioma have filled a long-standing deficiency in our series on human tumors of the glioma group. Dipeptidase activity was elevated in comparison with normal human grey and white matter analogous to previous findings in astrocytomas of all grades of malignancy. On the other hand, Mg-ATPase activity was significantly stimulated by the addition of Na^+ and K^+ in contrast to the absence of such incremental stimulation in previously studied astrocytomas. Quantitative histochemical analyses are also in progress on concentrations of lipid fractions (total, cerebrosides, gangliosides, cholesterol), proteins (total, proteolipid, residue) and nucleic acids (RNA, DNA).

Structural and Metabolic Microchemistry of Neural Membranes (Dr. Hess and associates). As described in last year's *Annual Report,* a joint endeavor upon the ultrastructure and microchemical properties of isolated retinal rod outer segments is now in full progress under the joint direction of Doctors Robertson and Hess. These organelles are

being studied as a form of modified neural plasma membrane having transducer properties which can be isolated in relatively pure form and subjected to direct chemical analyses. The microchemical aspects of this program carried out during 1964 have included four projects:

1) Further development and refinement of gradient density methods for separation of frog retinal rod outer segments that retain their paracrystalline structure and are relatively free of contaminating elements (Dr. Lolley, Dr. Hess and Miss Moniz).

2) Studies on the elementary chemical composition of the isolated rod outer segments (Dr. Lolley and Miss Rita A. Moniz). The principal constituents determined have included total solids, total proteins, and standard phosphorus fractions (lipid, acid-soluble, nucleic acids), each in relation to the total number of rods. Their ratios and relative values for use as reference systems for other biochemical data have been assessed.

3) Studies on the lipid constituents of isolated rod outer segments (Charles N. Still, M.D., Dr. Hess, and Miss Thalheimer). Determinations of total phospholipids and cholesterol have been carried out together with identification studies on complex steroid and quinone derivatives that seem to be present.

4) Determinations of enzyme activities in isolated rod outer segments (Dr. Lolley). Enzymes selected to exemplify the presence and degree of activity of the glycolytic, pentose shunt, and tricarboxylic acid pathways, as well as the nature of ATPase activity (Dr. Fuller) have indicated that intrinsic energy producing mechanisms are essentially absent in ROS enriched fractions, but that a Ca^{+}-Mg^{++} activated type of ATPase may be present in these transducer elements of the retina.

Experimental Microchemical Neuropatholgy (Dr. Mayman). This represents a newly reactivated type of investigation in which quantitative histochemistry is being applied to the study of experimental metabolic diseases of the nervous system. Studies have been initiated on the structural chemical and substrate-metabolite changes that occur in whole brain and in selected vulnerable subdivisions (cerebellum, hippocampus) as a result of experimentally induced hypoglycemia in mice.

This work has involved establishment of the Lowry ultramicro fluorimetric methods for determinations of glucose, glucose-6-phosphate, ATP, and creatine-phosphate, and their measurement in whole brains of mice with insulin induced hypoglycemic encephalopathy. Results have

shown an anticipated fall in blood and brain glucose, a lesser decrease in brain G-6-P, a decrease in ATP, but, curiously enough, no essential change in CrP levels. Parallel studies are now underway on the effects of hypoglycemia on brain gangliosides (Dr. Mayman and Dr. Hauser). *Histological Studies on Human Brain Tissue Cultures.* An opportunity arose for collaboration with Harvey M. Shein, M.D., Resident in Psychiatry, on investigations he has been carrying out in the laboratories of Professor John F. Enders. Dr. Shein has achieved isolation of astrocytes and spongioblasts in dispersed cell tissue cultures prepared from human fetal brain. Pure cell lines have been established and malignant transformations induced *in vitro* by use of a carcinogenic virus (SV_{40}). In this laboratory, assistance has been provided Dr. Shein in preparing special neurohistological stains of his material and in interpreting the neuropathological significance of his findings (Dr. Pope and Miss Thalheimer). This represents the initial phase of a plan to establish a tissue culture unit here under Dr. Shein's direction for studies on the cellular biology and microchemistry of neuroglia.

Biophysical Studies

(This section of report submitted by J. David Robertson, M.D., Ph.D.)

The work carried out in the biophysics section of the Laboratory during 1964 has been a continuation and elaboration of the work previously begun. One major new study has been initiated, in addition to new projects begun with the post-doctoral Fellows. The major emphasis during the year has been placed on X-ray diffraction and electron microscope studies of retinal rod outer segments, and on bringing the previously begun projects to completion for publication. The work carried out will be outlined in the following categories: (1) X-ray diffraction studies of retinal rod outer segments. (2) Electron microscope studies of retinal rod outer segments. (3) Further studies of goldfish medulla. (4) Further studies of variations in unit membrane thickness. (5) Further studies of crayfish giant synapses. (6) The development of a new fixation technique utilizing lanthanum permanganate. (7) Further studies of the prawn nerve cord. (8) Studies of the effect of tri-ortho-cresyl phosphate on peripheral nerve ultrastructure. (9) Studies on mouse skin. (10) Studies of certain viral tumors in tissue culture.

(1) X-Ray Diffraction Studies of Retinal Rod Outer Seg-

MENTS. An effort has been made to perfect the Franks X-ray diffraction camera. Almost all undesirable random scatter in the film plane has now been removed.

We have recorded the first and second orders of a 320 Å repeat period along the longitudinal axis of fresh rods *in situ*, and patterns have been obtained from fresh detached rods. Rods fixed in various ways have been studied both *in situ* and detached. Two orders of the lamellar repeat have been recorded from fresh rods, and three orders from fixed rods. No evidence of a repeating unit within the planes of the rod lamellae has been found in fresh rods, but suggestions of a repeating structure at about 80 Å have been seen in patterns from fixed material. These findings bear directly on the problem of phase changes in unit membrane lipids now of current interest. So far, the results suggest that micellar transformation of the smectic lipids may occur, but only as an artifact of preparation.

(2) ELECTRON MICROSCOPE STUDIES OF RETINAL ROD OUTER SEGMENTS. Studies of sections of frog retina fixed with new methods have resulted in certain new findings. We have noted an important new relationship between the lamellae. Each lamella is known to be characterized by a set of deep incisures, and the first few lamellae at the base of the rod next to the inner segment are formed by a simple infolding of the surface membrane, analogous to that seen in cones. It was concluded previously that each cone lamella was, in fact, continuous with the surface membrane, being a simple invagination from it. However, no evidence of continuity of the bulk of the rod lamellae with the surface membrane was found in any previous studies. It has been generally concluded that most of the rod lamellae are disconnected sacs. We have, in our new preparations, found an unexpected type of continuity between the lamellae. In longitudinal sections of the outer segments, including incisures, one sometimes finds a section that is slightly oblique and passes through the end of the aligned incisures of successive lamellae. Here, the unit membrane loops bordering the incisural gap are out of phase by exactly one lamellar width, and as the plane of section passes out of the incisure, continuity is set up between the adjacent lamellae with a succession of cross-overs, in which successive unit membranes pass obliquely from one lamella to the adjacent one. In some instances, we have traced single lamellae from the edge of a rod over to an incisural gap and found an odd number of

cross-overs. In such regions, it is possible to trace out a single unit membrane from lamella to lamella successively, and show that groups of lamellae are continuous with one another. This provides the first evidence of interconnection between the bulk of the lamellae in rod outer segments and makes more probable the possibility of understanding the activation of the inner segment membrane by mechanisms such as exciton transfer or photoconduction.

(3) Further Studies of Goldfish Medulla. We have continued our studies of the goldfish medulla with improved fixation methods, particularly acrolein-glutaraldehyde-osmic fixation. The previously-described extracellular matrix material found around the "Mueller" cells now appears very strongly stained. We have noted numerous nerve endings on the "Mueller" cells representing synapses *en passage* with a short synaptic process originating from a node of Ranvier near the synaptic bed and terminating on the soma-dendrite. Another type of small ending is present, having the essential characteristics of the club endings on Mauthner cells, but in miniature. They may therefore transmit electrically.

(4) Further Studies of Variations in Unit Membrane Thickness. The work previously begun on octopus optic nerve fibers was carried further with a set of new specimens collected in Naples during the summer. The previous findings were in general confirmed, and a more extensive study was conducted, including microdensitometer tracings. Fixation in 0.6% permanganate in distilled water resulted in measurements of axon membrane thickness of 68 Å overall by eye, with a 40 Å peak-to-peak width by microdensitometry. Fixation in 0.6% permanganate in sea water resulted in an average measurement of 89 Å for the overall thickness, with a 50 Å peak-to-peak width by microdensitometry. Fixation in 0.6% sea water concentrated six times resulted in an average overall measurement of 111 Å, with a peak-to-peak width of 65 Å by microdensitometry. These results show that a given unit membrane fixed under different conditions may vary in thickness by as much as plus or minus 25%, and are of considerable interest because of attempts to classify unit membranes on the basis of thickness with much smaller differences. Our findings suggest that such classifications should be interpreted with caution.

(5) Further Studies of Crayfish Giant Fiber Synapses. The median-to-motor giant fiber synapses have been studied further with

the newer aldehyde prefixation methods. Glutaraldehyde followed by $KMnO_4$ fixation has confirmed the closure of the synaptic cleft in most regions, but in some areas it has been found open and to contain a few vesicles. Fixation by acrolein-glutaraldehyde followed by OsO_4 and then $KMnO_4$ by perfusion has resulted in remarkably clear membranes with the closure of the synaptic cleft clearly shown.

(6) The Development of a New Fixation Technique Utilizing Lanthanum Permanganate. Carlos F. Doggenweiler, Ph.D., and Samy G. Frenk, Ph.D., in collaboration with Dr. William Pickard at MIT, have developed a new fixation method with some unique properties. Because of certain work done in Dr. Jerome Lettvin's laboratory at MIT, it was thought that the lanthanum ion might have unique properties in preserving membrane structure. Lanthanum permanganate was synthesized and applied to fixation of invertebrate and vertebrate nerve fibers. Unit membranes are well preserved and the general cytological preservation is similar to that obtained with potassium permanganate. The most interesting effect was found in the intercellular gap substance, which was heavily stained.

(7) Further Studies of the Prawn Nerve Cord. Mr. John E. Heuser, now a medical student, has continued his studies of the prawn nerve cord, working partly at McLean and partly at the Medical School in Dr. Fawcett's laboratory. He has applied combined aldehyde-OsO_4 fixation methods with distinct improvement in quality of preservation of the myelin sheath of the giant nerve fibers.

(8) Studies of the Effect of Tri-Ortho-Cresyl Phosphate (TOCP) on Peripheral Nerve Ultrastructure. Albert Bischoff, M.D., completed his year of training and left early in December, to return to Zürich. The results obtained from his study of the effects of TOCP poisoning on chick peripheral nerve fibers have been brought together in a manuscript which is now at press. It is believed that the primary action of TOCP on peripheral nerves was substitution for cholesterol in the axon and Schwann cell membranes. Evidence of alterations in the properties of the axon and Schwann cell membranes consistent with this notion was found; i.e., frequent abnormal occlusions of the cleft between the axon and Schwann cell membranes. The more extreme effects were manifested by complete breakdown of the myelin sheath and alterations of axons beginning at nodes with accumulations of endoplasmic reticulum and large numbers of vesicles.

(9) STUDIES ON MOUSE SKIN. Dr. Scoggins came from a dermatology residency at the MGH to learn the techniques of electron microscopy last July. He has explored several tissues during his period of learning the techniques, including retinal rod outer segments, liver, intestine, pancreas, and skin. Several interesting leads have developed, but his work is now too preliminary to report in detail.

(10) STUDIES OF CERTAIN VIRAL TUMORS IN TISSUE CULTURE. Dr. Levinthal has recently joined the laboratory in order to learn the techniques of electron microscopy. She is an accomplished tissue culturist, working with Dr. Enders and now holding an appointment in the Bacteriology Department. She has cultures of several viral tumors that she wishes to study, and has already made some preparations that show the tissue culture cells in thin section in a well-preserved state in which viral particles associated with the membranes of the cells have been identified. The work is also just beginning.

JORDI FOLCH-PI, M.D.
Director of Scientific Research

Report of the Psychology Department

THE Psychology Department continued its major functions of psychological testing, research, teaching and psychotherapy. A total of 620 tests were administered to 157 patients during the year.

Most of the testing is completed within a few weeks after the patient is admitted to the hospital and is part of the overall clinical evaluation. Often patients are re-tested six months to one year later for purposes of re-evaluation and determination of the incidence and degree of improvement. Although not all newly admitted patients are referred to the Psychology Department, patients under the age of 21 are usually tested.

Psychological testing has been particularly helpful in dealing with the unique problems of diagnosis and planning for the increasing number of adolescent patients. Since the majority of these adolescents are enrolled in the Arlington School, the test results pertaining to intellectual abilities, problems in learning etc. can be integrated with the over-all educational planning. For the most part, the psychiatric staff refers patients for testing when there are questions concerning diagnosis, degree of pathology, brain damage and suicidal potential. Through the medium of the work-up conferences and follow-up information on the patient's course in the hospital, it has been possible after testing to apply a research attitude to the psychological test data. Thus, we are always accumulating additional indications for the various types of pathology in order to achieve higher validity to our test interpretations.

Teaching activities have been significantly expanded. Mr. Scott Reinhardt has been working closely with the faculty of the School of Nursing and teaches a course in Introductory Psychology to the student nurses. We continue to meet with the medical students each month, and a seminar on the theory and application of psychological tests is given to the residents. This year, in conjunction with the Psychology Department of the Beaverbrook Guidance Center, we have begun a Training Program in Clinical Psychology and have added two psychological interns to our staff. Mrs. Linda Shapiro is a graduate student in the Department of Social Relations at Harvard University and Mr. Darrell Brown is working toward his doctorate in the Department of

Psychology at Brandeis University. They are receiving experience and training in diagnostic testing, psychotherapy and research, working with adult and adolescent patients at the hospital and with children at the Beaverbrook Guidance Center. As this program develops, we hope to add more interns to our staff and to develop a more advanced training program for post-doctoral candidates.

Irene P. Stiver, Ph.D., continued her research interests in perception and with Joseph J. Michaels, M.D., has recently completed an analysis of the character structure of the Psychopathic Personality. Robert Schnitzer, Ph.D., in conjunction with Alfred H. Stanton, M.D., and Merton Kahne, M.D., is devoting half-time to an investigation into content and processes occurring in psychotherapy transactions. In addition, Dr. Stiver is a research consultant on the staff of the James Jackson Putnam Childrens Center.

Michael Wogan, Ph.D., resigned from the staff in September to join the faculty of the University of Connecticut. We are happy to announce the appointment of Richard J. Bonier, Ph.D., who will be joining the department in January, 1965; he received his graduate training at Michigan State University and is presently Chief Psychologist at the Greater Lawrence Guidance Center.

IRENE PIERCE STIVER, Ph.D.
Chief Psychologist

Report of the Activity Therapies Department

THE formal dedication of the Rehabilitation Center on October 18, 1963, and the Activity Therapies Department's full participation in the day's program began the year on an auspicious note. Staff was involved in presentations at the Clinical Symposium, the Roundtable Discussion for patients and their families, and in extending hospitality to the numerous guests who toured the new facility throughout the day.

As noted in last year's report, the Department geared its efforts during the year toward development of staff, program and the best use of the old and new areas in the treatment of patients.

Staffing continued to be a major problem, but is gradually being stabilized. As this report is being written, the only area of real concern is Recreational Therapy where several resignations due to marriage, pregnancy and return to school have depleted the complement. In all the other sections of the Department new staff have proved their effectiveness as an integral part of the treatment team. Mr. Morton Stone was appointed Counselor in Vocational Rehabilitation on September 14, 1964, and will fill a long felt need in the Department, both for enlarging and structuring the existing patient work program within the hospital, and effecting more knowledgeable working arrangements for patients in the community.

Program was enthusiastically improved throughout the year in all areas:

In Occupational Therapy, after several rearrangements of the O.T. wing and orienting of new and old staff to the new quarters, it was possible to serve a larger proportion of the hospital population more effectively. The staff still struggles with those patients who use Occupational Therapy only for supplies and elude efforts to involve them in any interaction. This is partially due to the overall philosophy in the hospital with regard to "schedules" for patients. However, the goals for next year will include attempts to form more groups at specific hours during the day which will focus on special interests, such as cooking, service projects, printing, photography, etc. In a large measure, the volunteers who assisted during the year have helped to initiate such activities with the supervision of O.T. staff. These included sewing groups, a photography club, and the continuation of the popular art

lending library group. Also, as more qualified staff has become available in the area, it has been possible to visit on the halls both for individual work with patients as well as engaging patients in hall projects. During the year, O.T. staff began regular attendance at ward staff meetings, as well as ward rounds on several halls. This has served, not only to increase communication, but to stimulate activity through better understanding of the problems on the halls.

Patient workers have continued to serve usefully in the area as receptionists and helpers.

The crowded condition in the O.T. wing was alleviated by moving the Art Studio and Pottery section to two rooms in the basement. This is only a temporary arrangement and will need to be re-evaluated as soon as funds become available for a new module for the building.

In Recreational Therapy, the availability of more space (following the move of O.T. into the new quarters) provided a boon for activity. A new exercise room was fitted with much of the equipment in the main Gymnasium (such as the pulleys, weights, mats for tumbling, bars, etc.) leaving the gymnasium proper free for larger group games throughout the day. Program continues to encompass instruction and participation in all sports. R.T. has also been responsible for various events—picnics, beach trips, cook-outs, country fairs, holiday programs, as well as additional specialized activity. In the past year, the latter has included modern dance classes, trips to swimming pools in the community, tennis tournaments, basketball and softball teams (which played several games with community teams from churches and settlement houses). The patient work crew performed many needed jobs in the area such as: washing walls, painting rooms, moving furniture and enlarging and lining the ball field in Proctor yard.

Cooperation with Arlington High School physical education classes has continued. The area and equipment are available to the classes two afternoons a week.

The Patient's Library has thrived during the year with the consistent and enthusiastic direction of Miss Claire Coffey, Librarian. There has been a great deal of patient involvement in library jobs, including the reorganization of an Editorial Board for the hospital newspaper, *Around and About.* New books have been added to the collection and the generous contributions of the McLean Hospital Auxilians has been deeply appreciated. Plans are under way for modernization of the cata-

loguing of the books. The hospital Volunteer Teas were reinstituted as soon as it was feasible, and continued to be a high spot in the week, with the able support of McLean Hospital Volunteers—Mesdames Armstrong, McFarlane and True.

In Music Therapy, more than 200 patients were involved in the various activities available. For the most part the program remained as described in last year's report. Several new groups were formed: a choral group which caroled throughout the hospital at Chistmas time and performed at the Volunteer Recognition Tea, a recorder group which met for several months, and a barbershop quartet which lasted only briefly, due to the discharge of its members. One concert at which patients and staff performed was a great success. The small concert hall in the area lends itself beautifully for this type of program as well as other uses—group meetings, drama reading, the showing of slides for small groups, etc.

The Music Therapist visits East House once a week to encourage more participation by the patients, and a bimonthly music program for the geriatric patients on Proctor Hall was started. Two volunteers assisted in the area during the year, one as receptionist and one in direct work with individuals and the choral group. Patients have held jobs in Music Therapy as receptionists, record catalogers, and tape recorders.

Several additions to responsibilities assumed by the Department bear mention. A Patient Activity Committee was reactivated which ranged in membership from two to ten patients during the year, who met regularly with the Director to plan, publicize and carry out activities for the entire hospital population. The programs included Folk and Square Dances, with professional callers from the community, and formal dances with orchestras. All the dances and informal parties were held in the Village Green of the Rehabilitation Center which creates a far better atmosphere for this type of activity than was possible in Pierce Hall where they were held previously. Thanksgiving and Christmas dinners for patients were celebrated in the Staff Cafeteria, and were highly successful, due in large part to the devoted cooperation of the Dietary Department, Nursing and Administration. Other P.A.C. sponsored activities were speakers from the community as well as the patients themselves on a variety of subjects, (some even included appropriate films)—language, weather, atomic energy, theatre, art film, fashion, religion, etc. Community choral groups and variety shows came to the hospital and

performed. These activities were held in Pierce Hall. All of the events were well received and enjoyed by those who attended and those who participated in providing it. However, by the end of the year enthusiasm in P.A.C. waned with the discharge of some of the more capable members on the Committee and the apathy of others. This type of organization is extremely useful, therapeutically, both for the patients involved in planning activities and for those who attend. However, a more definitive structure for the group is necessary before it can become an integral part of the program. Otherwise, it will remain a perennial problem with times of high and low enthusiasm.

Since the A.T. Department is the largest source for patient jobs in the hospital, there was more consistent liaison with the hospital patient work program. Much was accomplished in defining the method of procedure for obtaining jobs within the hospital, and the formation of a Patient Work Committee which met regularly during the year. This group successfully planned and arranged the annual dinner honoring those patients who served in a variety of jobs in the various departments of the hospital. Some 80 patients were presented with Certificates this year. Again, the cooperation of the Dietary Department is gratefully acknowledged. Mr. Stone's presence will give added impetus to this program.

Another group which has remained on-going during the year has been the Drama Reading Group which began with patient leadership, and when the patient was discharged, continued to function with direction from an O.T. staff member. Currently, it is being led on a session basis by a professional person from the Charles Street Playhouse Workshop. By the end of the year, the group presented a full-length play in Pierce Hall to an enthusiastic reception by patients and staff for an exceptionally fine performance.

Finally, other activities which have remained popular are the Horsemanship Group which uses a local riding academy; a group of art enthusiasts who visit the many fine galleries in and around Boston; seasonally, groups have been taken skiing to nearby ski slopes and to Tanglewood for the Music Festival. These programs have been carried by various staff members who were knowledgeable or capable in the particular activity, regardless of their own assignment.

This has indeed been a year of achievement for the department in effecting its goals towards a treatment-oriented program geared to the

needs of the patients. This has been accomplished with an increase in communication and understanding between the various disciplines involved in patient care, and with the fullest cooperation of all the departments of the hospital.

ROSE FARKAS, M.S.S.
Director of Activity Therapies

Report of the Social Science Department

IT is difficult to begin an annual report of the Social Science Department other than with mention of research activities. In this area a good record can be reported. At a time when research grants are less certain than before, Norman W. Bell, Ph.D., Ruth L. Coser, Ph.D., and Murray Melbin, Ph.D., continue to receive support. Dr. Coser is moving into the final phase of her study of how residents assimilate the values and skills of a psychiatrist. Dr. Melbin is moving into the central phase of his study of programming nursing coverage. Dr. Bell, at the conclusion of the collaborative ward study with Stanley H. Eldred, M.D., and Lewis J. Sherman, Ph.D., received a special fellowship from the National Institute of Mental Health to begin a program of studies on the relationships and mutual influences of families and treatment agents. The first year is being spent in Amsterdam, The Netherlands. At the same time a major extension, in new directions, of Dr. Eldred's work has received support and has brought in a large group of younger research workers.

Another development was the formalization of the working relationship between McLean Hospital and Leonard F. Solomon, Ph.D., and Ronald L. Nuttall, Ph.D. Both were appointed Assistant Social Scientists. Concurrently they are on the faculties of Boston and Northeastern Universities, respectively. It is gratifying to be able to establish close work relationships with competent researchers from a variety of settings.

The overall development of research and the securing of new personnel inevitably proceeds more slowly than is hoped. A major effort to broaden the base of support through a grant for the conjoint research training of social scientists and psychiatrists did not bear fruit. A number of other pilot studies have been undertaken, but have not grown to full size. There remain many opportunities for research at McLean Hospital.

The involvement of social scientists with the clinical life of the hospital has gone on apace. New regulations regarding research grants have brought a closer accounting of such extra-research activities, but no problems have been encountered as yet. The application of social science knowledge and point of view to a variety of problems in

hospital life is an exciting challenge to social scientists and a valuable testing ground for them.

It is our sad duty to record the death of our former colleague Dr. Anne Parsons. Dr. Parsons was the first social scientist to work as such at McLean Hospital. From 1956 to 1963 her quiet questioning and original ideas did much to establish the Social Science Department.

Both the work of the Department and its atmosphere would be impossible without the efforts of a group of dedicated, challenging group of research assistants. Again we pay tribute to the contributions of a number of patient volunteers.

Dr. Coser, as Acting Chief, has assumed the department's administrative and coordinative duties during my leave of absence.

NORMAN W. BELL, Ph.D.
Associate Sociologist and Chief

Report of the Social Work Department

THROUGHOUT the year, establishing the Outpatient Clinic and the expansion of group work services required a good deal of planning and coordination with other members of the staff.

In March, 1964, Mrs. Shirley Goldstein was employed on a half-time basis to assist in developing procedures for the new clinic and to be available to handle inquiries. Within the first few months it was evident that an additional full-time social worker was needed, and in July, 1964, Miss Elizabeth Breed was appointed to the new position. In the first seven months of operation, they conducted 199 interviews and 384 telephone calls, offering service to a total of 140 patients or their relatives. It is expected that it will soon be necessary to increase the social work complement to make it possible to meet the extensive demands for service.

Over the past five years, with Miss Louise Frey, Associate Professor, School of Social Work at Boston University acting as consultant, Miss Jo Ann Glotfelty, Supervisor, Social Group Work, had demonstrated the importance of therapeutic activity groups. Because of the shortage of qualified staff, it had not been possible to develop this aspect of the treatment program to the extent desired. Forunately this situation was relieved when we were able to employ Miss Elizabeth Wiley in August, 1964, and Miss Jane Compton on October 1, 1964, as group workers. Mr. James Garland also accepted a joint appointment as a Supervisor of Social Group Work and Director of Activity Therapies on October 1, 1964. With this new appointment, closer working relationships were foreseen between social work and activity therapies to strengthen and enhance the therapeutic milieu of the hospital.

The caseworkers averaged about 205 cases monthly, 150 of whom were inpatients or their relatives and 55 day patients or their relatives. Miss Judith Moore, caseworker, joined the staff in July, 1964. Because of the resignation of Mrs. Hope MacDonald, Supervisor, in July, 1964, and Mr. Fred Seifer, caseworker, in August, 1964, there were problems of reassignment of cases and unfortunately in a few instances, some interruption of service. There were 3,858 inpatient interviews, 968 outpatient interviews and 138 pre-admission interviews totaling 4,964 for the year. As in the previous year a good deal of service was offered

on the telephone, especially at pre-admission totaling 1,865 calls. The group program for family members to join with other relatives to discuss mutual problems was expanded to include two groups for mothers led by Mrs. Hope MacDonald, a group for husbands led by Mrs. Martha Norton, and a group for fathers led by Lawrence Stone, M.D.

Mrs. Mollie Grob, a one-eighth time research social worker, in conjunction with Katherine Spencer, PhD., and Golda Edinburg developed a questionnaire to study the adolescent population in the hospital as of September 1, 1961. The caseworkers completed these questionnaires and Mrs. Grob's summary report of the findings became available. It is hoped that next year there will be a follow-up study on these cases.

In September, 1964, Mrs. Ann Gross resigned as Director of Volunteers and was succeeded by Mrs. Albert Yanow.

GOLDA EDINBURG, M.S.S.S.
Director of the Social Work Department

Volunteer Department

THE Volunteer Program has completed its fifth year of formal organization. With the Volunteer Office now located in the Rehabilitation Center, coordination with the Activity Therapies Department has been strengthened. Two new groups led by volunteers were offered this year: Photography Club and Flower Arranging Class. The Volunteer-Patient Gardening Club sold plants and raised enough money to purchase gardening equipment for individual halls. Volunteer supervision was offered to hall groups wishing to plant and maintain their own gardens.

Orientation sessions for new volunteers were given. Included in the inservice training program was a Group Leadership Workshop. Four volunteers presented their work with activity groups which led to a discussion of leadership techniques and principles.

At the annual recognition program held in May, 25 volunteers received awards for services to the hospital totalling over 3,300 hours. Mrs. James W. McFarlane was presented with a five-year pin. She is the third volunteer to receive this award.

ANN F. GROSS, M.S.W.
Director of Volunteers

Report of the Nursing Department

The Nursing Service

AFTER exploring McLean Hospital's nursing care program during 1963 and 1964, the nursing service administrators and the clinical nursing consultant have concluded that their main, continuing objective should be to further develop the professional nurse's role.

This objective indicates the need for a more clinical focus in nursing and the supervision of nursing service personnel, increased student participation in direct patient care, possible alteration of the position and function of the head nurse group, assignment of the psychiatric nursing instructor to teach functions, processes and principles on a continuing basis, and the gradual transference of housekeeping, dietary, accounting, and pharmaceutical activities to personnel in those respective departments. It has been agreed that a gradual, studied approach would be wiser than sudden changes for which the nursing personnel are not yet prepared. Accordingly, plans have been made so that definite action might be taken.

Some of the non-professional activities that are now under study have resulted in the release of nurses from certain duties in order to give them more time for activities directly related to patients. For example, two patient units in one building now have an increased number of dietary and housekeeping personnel. Nurses in these areas become involved in dietary and housekeeping problems only if their intervention is of direct value to the patients' therapeutic program. In a third unit, the patients are now participating in self-service at meal hours, as part of their therapy, without an increase in personnel from other departments.

Currently, various methods are being tried regarding the delegation of certain jobs to non-professional personnel, such as having aides answer the telephone and making out requisitions.

Master staffing patterns for all nursing personnel including graduate nurses, psychiatric aides and student nurses have been controlled through the central supervisor's office. Emphasis has been placed on the patients' needs giving the head nurses more time to devote to professional patient care. Patterns of assignment of professional nurs-

ing personnel to individual patients and/or groups of patients have been improved, but further planning continues.

The greatest change has come about by the full-time assignment of two nurses (a head nurse and the nursing service instructor in psychiatric nursing), to the clinical nurse consultant for a three-month period. The nursing consultant then assigned them to a clinical unit under her direction. She supervised them through essential functions, process and principles. An evaluation revealed the success of these nurses in improving the condition of the patients assigned to them unhindered by non-professional function factors. As a result, each was promoted to the position of clinical supervisor and assigned to a nursing care unit with the twenty-four hour responsibility of patient care and direction and development of the total nursing personnel on each of their units. This change has revealed improved communications, an upgrade of morale and a definite improvement in patient care. One definite factor which is highly significant is the freedom, the responsibility and the authority of the clinical supervisor to meet the nursing needs of the patients through expert teaching and guidance of all the nursing personnel responsible for patient care throughout the twenty-four hour cycle. This change has eliminated the position of head nurse and the clinical nursing supervisor is responsible directly to the nursing service administrators.

As plans for the clinical focus have progressed, other departments have been periodically informed in sufficient time of any changes in the customary activities that nurses have performed in the past so that adequate communication and successful change have been insured. In addition, the clinical nursing consultant has continued to be available to all registered nurses, either in groups or individually; and, the department continues to assign selected nurses to the nursing consultant.

Activities shared with members of the medical staff, administrative staff, other departments, the faculty of the McLean Hospital School of Nursing, and the faculty of the Simmons College School of Nursing, in addition to those previously described include the following: participation through representation on hospital coordinating and work committees; patient-personnel and patient work conferences; participation of professional nurses as recorders in group therapy sessions and working with volunteers in clinical areas. Other activities include participation in medical care programs for adolescents; assisting in set-

ting the therapeutic environment; in promotion of the physical education program developed for students in Arlington School and participation of nursing personnel in activity therapy. Also, there has been a continuation in the development of fire prevention plans in patient areas; participation in planning and activation of fire drills; and coordination of clinical resources for the McLean basic students and the Simmons College students.

The master staffing pattern was reevaluated and changes were made in accordance with the anticipated needs for the coming year. An average of 6.0 nursing care hours per patient per day was provided the patients during the year as compared to 6.1 hours the previous year. Student nurses provided approximately one hour per patient per day of the total nursing hours. The nursing complement providing direct patient care included 13 head nurses, 12 assistant head nurses, 57 staff nurses and 107 psychiatric aides. At the end of the fiscal year there were no budgeted positions unfilled.

Opportunities for the growth and education of nursing personnel have continued. Participation in college programs for both nurses and psychiatric aides was encouraged. During the year, 20 nurses studied under the Graduate Nurse Scholarship Funds at three local colleges and universities, and a total of 111 credits was earned. A Supervisor and a Head Nurse continued to participate for the second year in a Nurse Leadership Program at Boston College sponsored by the New England Board of Education and financed by the United States Public Health Service. Funds were made available to select nurses to attend the American Nurses Association biennial convention who then brought back reports about new trends in psychiatric nursing.

Recommendations for improvement of nursing services in 1964-65 are:

(1) that the clinical focus of nursing projects be continued and changes made to improve the professional nursing care of the individual patient;

(2) that nursing and psychiatric aide salaries be reviewed and made comparable to those paid in psychiatric hospitals who are our competitors in recruiting nursing personnel;

(3) that the budget for scholarship grants to graduate nurses employed at McLean be continued at $6,000 annually;

(4) that all nurses now receiving a three week vacation be granted a four week vacation after continuous service of five years;
(5) that satisfactory library service for nursing be developed with other professional groups;
(6) that the functions of the nursing administrative and supervisory staffs be evaluated for the purpose of reducing the non-nursing functions to a minimum.

Members of the nursing staff join me in expression of their appreciation for the help and guidance given during the year by the Board of Trustees, the Medical Staff, the Administrative Staff and all the other hospital departments.

The School of Nursing

During the school year 1963-64, 22 freshmen were accepted out of 132 applicants whose credentials were studied in detail by the Committee on Admissions. In comparison, 32 of 160 applicants were accepted for 1962-63. The following reasons account for the decrease of eligible applicants: increased tuition and fee charges to students; improved selective processes by the required College Entrance Examination Boards; increased opportunities for entrance to community colleges and other diploma schools of nursing (especially for men); and scholarship opportunities in college and university programs. Of the 20 seniors who graduated in 1964, ten remained as staff nurses at the hospital, four entered psychiatric nursing in other hospitals, two joined the U.S.A.N.C., two are employed in general staff nursing at Massachusetts General Hospital, one entered staff nursing for the mentally retarded and another became a housewife.

Student costs for education have again been scrutinized. An increase in tuition for obstetrical nursing affiliation at the Boston Lying-in Hospital, beginning with students entering in September, 1964, raised total fees from $875 to $925 per student. Charges for students in the School of Nursing are:

Pre-entrance:	application, uniforms and tuition	$130.00
First Year:	tuition, fees, books, uniforms, health	$448.00
Second Year:	tuition for affiliations, fees	$263.00
Third Year:	tuition, fees	$ 84.00
	Total	$925.00

Funds in various amounts for 16 needy students to help defray costs were realized from the McLean Trustee Scholarship Aid Funds, Commonwealth of Massachusetts Nurse Scholarships, McLean Hospital Nurses Alumni Association, McLean Hospital Auxiliary Association, Belmont Women of Rotary and several community agencies.

Under the leadership of Robert N. Bouvier, President of the Student Association of McLean Hospital School of Nursing, the members were busy throughout the year laying a firm foundation for increased performance, communications and benefits for their individual members and their association. Members were active in the district and state levels of the National Student Association and four delegates participated in the National Student Nurses Association Convention in Atlantic City sponsored by funds raised by the McLean student organization.

During the year a public Investiture Service was held in the form of a Nightingale Service. Mrs. Marie Andrews, Chairman of the Department of Nursing, Graduate School, Boston College, was the speaker. The Alumni Association Scholarship for a first year student was awarded to Mr. Robert W. Desmarais

Samuel Silverman, M.D., Clinical Director of the Hospital, was the speaker at the annual commencement exercises. A class gift was presented at the exercises, and was subsequently used to buy a much needed portable slide projector. The Wetherill Awards for recognition of "development and exercise of the spirit of thoughtfulness for others," was awarded to Miss Mary E. Ribbin and Mr. Gerald F. Ellsworth. The McLean Hospital Nurses Alumni Educational Scholarship Award was given to Mr. Michael A. Maslanka, a member of the graduating class and the Lucile Pitcher Memorial Award for excellence in psychiatric nursing was awarded to Miss Jane P. Zapponi also a member of the graduating class. The two Annabella MacCrae Scholarships went to two undergraduate students, Mr. James K. Foster and Mr. Kenneth D. Barnes.

The Advisory Committee of the School of Nursing revised its rules of procedure which were approved by the McLean Committee of the Board of Trustees. The changes made provided for a two-member increase of committee membership totaling not more than 15 or less than 11 active members (including the ex-officio members), appointment of an active participant in the field of community or public health, rather than a participant solely from the public health field, and

the appointment of an active participant in the educational field in psychiatric nursing with the understanding that the nurse chosen must be qualified in academic interests in psychiatric nursing. Other changes were the appointment of the Director of Clinical Psychiatry ex-officio, and hospital representatives ex-officio. It was clarified that Honorary Life Members would be extended the same privileges as any regular member, except that of voting. Membership changes included the resignation of Alfred H. Stanton, M.D., and the death of Miss Theo G. Morrill. The three members approved by the Board of Trustees were: Mr. Edwin Hiam to replace Mr. John E. Lawrence, Trustee Representative; Samuel Silverman, M.D., Director of Clinical Psychiatry, ex-officio member; and Miss Helen Brownrigg, Director of Guidance and Research for all Belmont schools representing the field of general education.

The complement of the faculty has remained the same. The recommendation that the number of psychiatric nursing instructors be increased by one position to reduce the student number ratio per instructor according to accepted standards was approved in principle by the Director of the hospital. Budget considerations and the continued lack of qualified applicants have hampered our reaching this goal. Miss Helen B. Langton, R.N., M.S., was promoted from Instructor in Medical Surgical Nursing to Coordinator in Medical Surgical Nursing with her responsibility geared toward the integration of medical surgical nursing throughout the curriculum. New appointments were Mr. Samuel J. Bowman, R.N., B.A., and Miss Marie Nousee, R.N., M.A., as Instructors in Psychiatric Nursing replacing Mrs. Jean C. Costin and Miss Carolyn Billings. Two faculty vacancies were created at the end of the fiscal year when an Assistant Instructor in Sciences and an Instructor in Psychiatric Nursing left the hospital staff. Mr. Herbert Mallinson, Instructor in Psychiatric Nursing, was granted leave of absence to matriculate for his master's degree in Psychiatric Nursing and Mrs. Mary Anne Noble, Instructor in Psychiatric Nursing, was granted leave of absence to matriculate for her doctorate in psychiatric nursing.

The Coordinating Discussion Group of the McLean Hospital School of Nursing and the Nursing Service Department continued its function of discussing problems between school and service. Recommendations made to the Director of the school in relation to the student program

have resulted in the reduction and continuity of evening assignments, improvement in assignments to patients, development of a guide for administering patient-centered care, scheduled attendance to academic and case conferences, revision of orientation to clinical assignment, revision of employment policies, development of policies for student request for change of time, and revision of time arrangements for senior student charge experience.

A review of the curriculum needs of the school indicates that we give all our basic foundation courses at McLean in the first six months when the trend throughout the country is to integrate study and practice throughout the program. This is a serious problem and no solution has been arrived at as yet. Discussions in general have resulted in the need to give serious consideration to the future of the three-year school at McLean. The kind of skilled psychiatric nursing that needs to be practiced at McLean cannot be met by basic students who are being prepared for first level positions in all areas of nursing. Should nursing be on a highly specialized level in keeping with the training of other professional disciplines at McLean? Further study and investigation will be continued during the coming year.

Specific and important recommendations to the Director of the hospital are as follows:

1) that the number of psychiatric nursing instructors be increased by two positions to reduce the student number ratio per instructor according to accepted standards;
2) that monies continue to be allocated for the specific purpose of inservice education to provide for the growth of individual faculty members;
3) that a clerk-typist be added to the clerical staff to compensate for the increased work load since 1963 when the number of students rose and additional instructors were appointed;
4) that the School of Nursing library be incorporated within the development of a satisfactory library service with other professional groups;
5) that a recommendation be submitted to the Trustees to shorten the three-year program from 156 to 144 weeks pending the approval of the Massachusetts Board of Registration in Nursing while safeguarding the quality of the curriculum according to the standards set by the National Nursing Accrediting Service.

The faculty join me in extending appreciation to all those who have contributed in the operation of the School of Nursing this past year and look forward to a continuation of similar relationships in the coming year.

MARGARET C. TIBBETTS, R.N.
Director of the School of Nursing and Nursing Service

McLean Hospital

Statistics of the Nursing Service and School of Nursing

NURSING SERVICE PERSONNEL, YEAR ENDING OCTOBER 1, 1964

	Women	Men	1963-64
Average No. Graduates	66.6	28.3	94.9
Average No. Graduates—*Part-time	3.8	1.3	5.1
Average No. Licensed Practical Nurses	3	0	3
Average No. Accepted Students	14	28	42
Average No. Preclinical Students	14	8	22
Total	101.4	65.6	167
Average No. Psychiatric Aides	50.4	55.7	106.1
Average No. Psychiatric Aides—*Part-time	3.7	3.9	7.6
Total	54.1	59.6	113.7
Total No. Preclinical Students Admitted	14	8	22
Preclinical Students Dropped or Resigned	4	4	8
Accepted Students Dropped or Resigned	4	1	5
Total Dropped or Resigned	8	5	13
Students Graduated	10	10	20
Student Veterans Enrolled—P.L. 550 and 894	0	2	2

*Expressed in equivalent of full-time

NURSING SERVICE PERSONNEL, OCTOBER 1, 1964

	Women	Men	Total
Graduate Nurses			
Full-time	55.9	26.3	82.2
Part-time	3.7	1.2	4.9
Total	59.6	27.5	87.1
Licensed Practical Nurses	3	0	3
McLean Hospital and Affiliating Student Nurses			
Accepted Students	14	28	42
Preclinical Students	14	8	22
Affiliating Students from Other Schools	62	0	62
Total	90	36	126
Total Nursing Personnel	152.6	63.5	216.1
Psychiatric Aides			
Full-time	49	54	103
Part-time	2.6	2.6	5.2
Total	51.6	56.6	108.2
McLean Students on Affiliation			
Massachusetts General Hospital	9	15	24
The Children's Hospital	0	0	0
Boston Lying-in Hospital	4	13	17
Total	13	28	41
Affiliating Students from Other Schools Who Completed Course 1963-1964:			
Massachusetts General Hospital	86	0	86
The Children's Hospital	40	0	40
Peter Bent Brigham Hospital	41	0	41
M.G.H. Radcliffe College Program	6	0	6
Simmons College School of Nursing	9	0	9
Graduates	7	0	7
Total	189	0	189

Report of the McLean Hospital Auxiliary

NOTEWORTHY contributions in community relations and in fund raising might characterize the past year. Two events brought many hundreds of people to the new Rehabilitation Center, and netted $4300 for the Auxiliary to give to the Outpatient Clinic.

The Auxiliary's Open House, Petite Luncheon and Tour of the new Rehabilitation Center, directly after its opening in October, drew the interest and support of 326 sponsors who contributed $5 each. Others came to tour. Mrs. Paul M. Howard and Mrs. Arthur T. Ippen chaired this event which netted $2000 and an immeasurable amount of interest in and awareness of McLean Hospital as a community resource.

The Strawberry Festival in May was a huge fair, with an auction of treasures and sale of trinkets, handmade articles, books, plants, white elephants etc. Many members opened their homes for neighborhood collection coffees before the event. Irma Doctoroff's paintings were exhibited and a number of donated articles were offered for special sale. *A Festival of Strawberries* cookbook, compiled by Mrs. Mark M. Walter, Jr., and her committee, was an attraction. Mrs. Robert True estimated 400 luncheons were served and quantities of strawberry shortcakes consumed. Approximately 700 Auxilians, friends from many communities, staff and patients mingled, on a most beautiful May day. To Mrs. A. G. Cranney and her assistants, Mrs. Roy M. Coleman and Mrs. William C. McDonald and their large committee, go tremendous admiration for a gay, well-publicized, and financially successful ($2300 for the Outpatient Clinic) day.

Another event to make this a memorable year for the Auxiliary was the occasion, on February 17th, of the Hospital Administration's turning over to the Auxiliary the complete management of the Gift Shop. Attractive gifts and necessary merchandise and toilet articles are offered to patients and staff by the 27 Auxilians who take turns staffing the Shop four hours a day, five days a week, and 12 months of the year, holidays excepted. Great credit for the successful organization and operation of the Gift Shop belongs to Mrs. Paul M. Howard, Chairman, during the reorganization and take-over period. It was with great regret that her resignation was accepted in May because of other commitments. Mrs. John H. Donovan took her place, and her very capable leadership

of an able and hardworking committee has given indication that this service project will be financially profitable and enable the Auxiliary to make another substantial contribution to the Hospital.

The first Auxiliary sponsored Careers Day was held at the Hospital on April 7th. Mrs. Alfred H. Stanton and Mrs. Richard H. Miller, Jr., contacted high schools and guidance teachers in nine towns adjacent to Belmont. Some 90 students were brought to McLean Hospital to hear James A. Haycox, M.D., and other staff members talk about the professions of psychiatry, social work, nursing, psychology, and occupational, recreational and music therapies.

The first issue of the Auxiliary *Newsletter* was published in January prior to the midwinter meeting and a second one, in April to publicize the Strawberry Festival. Mrs. John D. Aikenhead, Editor, also contributed a column on Auxiliary activities to each issue of the Hospital *Newsletter.* Throughout the year Mrs. Aikenhead and Mrs. Laurence S. Foster contributed a minimum of 50 articles about Auxiliary events which appeared in 13 local and Boston papers.

Under the direction of Mrs. George M. Fenollosa, Membership Chairman, the enrollment increased from 179 to 233, representing 26 cities and towns in Massachusetts and three other states. Six Auxilians expressed confidence in the organization by changing their status to Life Members.

Members of the Hospital staff were most kind in responding to requests from Mrs. James A. Haycox and Mrs. Richard H. Miller, Jr., Program Chairmen. Stanley H. Eldred, M.D., spoke informally at the New Members' tea about current psychiatric therapy at McLean. Samuel Silverman, M.D., addressed the midwinter meeting on "The Significance of an Outpatient Department for McLean Hospital," and Jacob Christ, M.D., and Mrs. Shirley Goldstein reported at the Annual Meeting on the operation of the newly opened Outpatient Clinic.

Tours of various parts of the Hospital were arranged by Mrs. Glenn E. Behringer at the time of the Open House, the Midwinter meeting, and the Careers Day. Hospitality has been dispensed graciously at open meetings, special occasions and Board meetings by Mrs. Robert True, Mrs. Roswell D. Armstrong and their committee.

A handsome seal and an official emblem for the Auxiliary was designed by Mrs. Stuart T. Shears, and first used to decorate the flyleaf of the *Festival of Strawberries* cookbook. Some of these books are now

on sale at the *Guild of Strawbery Banke* in Portsmouth, New Hampshire.

The Library Committee under Mrs. John W. Weeks' chairmanship collected books, magazines, language records, a record player and a complete *Encyclopedia Brittanica* for the Arlington School and the main libraries.

The Auxiliary has continued to contribute to ward parties. A portable sewing machine, a play pen and high chair were given to the Day Care Center. The Lucile Pitcher Award for "Excellence in Psychiatric Nursing" has been continued and the payments met on a full tuition scholarship at the Nursing School. Mrs. Arthur T. Ippen's Finance Committee has given sound advice. The Life Members Savings Account is now known as The Endowment Fund, and memorial and other gifts will be added to it. Yearly interest will be paid into the operating account.

The McLean Hospital Volunteers have been closely associated with the Auxiliary and have been represented on our Board by Mrs. Charles A. Coolidge and Mrs. Winthrop S. Jameson, Jr. They have made available to our Gift Shop workers appropriate aspects of their volunteer training program and they have joined with us in our Strawberry Festival. For their cooperation and support, we are most grateful.

The Auxiliary's proud record of growth and achievement over the past year is due in great measure to the devotion and great competence of Mrs. George H. Simonds, Jr., President through almost all the period covered by this report. She was ably assisted by Mrs. Frederick H. Nickels, Vice-president; Mrs. W. Warren Point, Recording Secretary; Mrs. William C. McDonald Corresponding Secretary; and Mrs. Vincent L. Hennessy, Treasurer.

Directly contributing to their achievement was the warm acceptance of the Auxiliary by the Hospital as a whole and the support of Francis de Marneffe, M.D., Director, Mr. Henry J. Langevin, Administrator, the Administrative staff, the Medical staff, departments of Nursing, Social Service, Activity Therapies, Psychology, Dietary, Secretarial and others.

The Auxiliary and its newly elected Board look forward to a year of continued growth in membership and of stimulating programs calculated to increase the members' knowledge of mental health and of the role of the Hospital in the community. Service to patients and Hospital

will be effected through the Gift Shop operation and the now traditional Strawberry Festival.

The Hospital Administration, staff, and personnel have gone out of their way to make the Auxiliary feel that its efforts are significant. We would wish them to know that we deeply appreciate their encouragement and friendly attitude and that we hope that our goals will always merit their approval.

PRISCILLA S. AIKENHEAD
(Mrs. John D.)
President

Directory

ALUMNI AND PRESENT MEMBERS OF THE HOSPITAL STAFF

Present members of the Hospital Staff are indicated by (*). McLean Hospital is indicated by (McL).

The abbreviation M.G.H. is used when the address is the Massachusetts General Hospital.

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M.G.H.

Abi-Torbey, Khalill, *Urology* '62
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Hauser, George P.
Haycox, James A.
Hermann, Howard T.
Hess, Helen H.
Howard, Paul M.
Jenney, Peter B.
Kahne, Merton J.
Kaufman, Irving
Kershaw, Beatrice R.
Lawson, George B.
Longabaugh, Richard H.
Melbin, Murray
Mokrasch, Lewis C.
Mueller, H. Peter
Nalebuff, Edward A.
Nuttall, Ronald L.
Perry, Jalna A.
Pope, Alfred
Post, Jerrold M.
Robertson, J. David
Robinson, Phelps M.
Ronat, Judith G.
Schnitzer, Robert D.
Semon, Ralph G.
Sherman, Lewis J.
Solomon, Leonard F.
Spillane, John B.
Stanton, Alfred H.
Stiver, Irene Pierce
Stoffyn, Anne Marie
Stoffyn, Pierre J.
Stone, Lawrence A.
Walter, Mark M.
Washburn, Stephen L.
Weisman, Avery D.
Wermer, Henry
Wermer, Olga S.
Wolterbeek, Jacob C.
Ziskind, Alan

Beverly
Alt, Richard E.
Fienberg, Robert
Lamkins, Burnham E.
MacDonald, Alexander S., Jr.
Parkhurst, Albert E.
Risley, Thomas S.
Todd, Barnard P.

Boston
Abbott, John A.
Abramowicz, Mark
Ackerman, Irving P.
Ackroyd, Frederick W.
Adams, F. Dennette
Adams, Herbert D.
Adams, John, Jr.
Adams, Raymond D.
Aisenberg, Alan C.
Allen, David W.
Allen, Henry F.
Alpers, David H.
Ames, Adelbert, III
Andrew, Norman W.
Anliker, James E.
Apostolides, Antonios A.
Arnason, Barry G. W.
Arndt, Kenneth A.
Aronow, Saul
Aronson, Jason A.
Asbury, Arthur K.
Aster, Richard H.
Atkins, Leonard
Aub, Joseph C.

Boston (continued)

Aufranc, Otto E.
Austen, K. Frank
Austen, W. Gerald
Backman, John H.
Baddock, Sheldon S.
Baden, Howard P.
Badger, Theodore L.
Baker, George P., Jr.
Baker, Myles P.
Baker, William H.
Balboni, Gerardo M.
Balboni, Victor G.
Baler, Lenin A.
Ballantine, H. Thomas, Jr.
Balogh, Karoly
Bandler, Bernard
Banks, Henry H.
Barlow, John S.
Barlow, Joseph J.
Barnes, Ann R.
Barnes, Benjamin A.
Barnett, G. Octo
Barry, Herbert J., Jr.
Bartlett, Marshall K.
Barton, Theodore C.
Battit, George E.
Beck, William S.
Beecher, Henry K.
Behringer, Glenn E.
Bell, Eugene
Bell, George O.
Bell, Michael H.
Bendixen, Henrik H.
Benedict, Edward B.
Benedict, Patricia H.
Berenberg, William
Bernstein, Norman R.
Bigelow, Frederick S.
Binger, Carl A. L.
Bird, Kenneth T.
Bland, Edward F.
Blane, Howard T.
Blank, Irvin H.
Blennerhassett, John B.
Bloch, Kurt J.
Bloom, Edward R.
Bostic, William C.
Brendler, Samuel J.
Brendze, Robert B.
Brewster, Henry H.
Briefer, Caesar, Jr.
Brockhurst, Robert J.
Brown, Thornton
Brownell, Gordon L.
Brubaker, Richard F.
Bucher, Nancy L. R.
Bullivant, Stanley
Burke, John F.
Burnett, Jean B.
Burnham, Charles A.
Burrage, Walter S.
Burrington, John D.
Burwell, C. Sidney
Bush, Richard D.
Byers, Randolph K.
Caner, G. Colket
Cannon, Bradford
Carnes, Harold A.
Carney, Henry J.
Carter, Edwin L.
Carter, George H.
Carter, James R., Jr.
Cass, John W.
Casten, Virgil G.
Castle, William B.
Castleman, Benjamin
Catlin, Randolph, Jr.
Caulfield, James B.
Cave, Edwin F.
Chafetz, Morris E.
Chalfin, Robert M.
Chandler, Hugh P.
Chapman, Earle M.
Chase, Thomas N.
Choras, Peter T.
Christman, George
Clark, Wallace H., Jr.
Clifford, Stewart H.
Clouse, Melvin E.
Cobb, Stanley
Cochran, William D.
Cohen, Johnathan
Cohen, Mandel E.
Cohen, Richard B.
Cole, Edwin M.
Coletta, Cesare G.
Connelly, John P.
Constable, John D.
Coons, Albert H.
Cope, Oliver
Crabtree, Harvard H.
Crawford, John D.
Crone, Neil L.
Cronkhite, Leonard W., Jr.
Culver, Perry J.
Currens, James H.
Daland, Ernest M.
Dalton, John C.
Damon, Albert
Darrow, Robert A.

Boston (continued)

d'Autremont, Chester C.
Davidson, Gerald E.
Davies, John A. V.
DeGroot, Leslie J.
DeLorme, Thomas L.
d'Elseaux, Frank C.
DeSanctis, Roman W.
DeWilde, Herman
Deykin, Daniel
Diamond, Louis K.
Dickson, D. Neil
Dienes, Louis L.
Dinsmore, Robert E.
Dodge, Philip R.
Donaldson, Gordon A.
Donovan, Donald D.
Dreyfus, Pierre M.
Dreyfuss, Jack R.
Duff, Arthur W.
Duhl, Frederick J.
Dykes, Michael H. M.
Eaton, Richard G.
Ebert, Robert H.
Ebisuzaki, Kaney
Efron, Mary L.
Egbert, Lawrence
Eger, William H.
Eisen, Arthur Z.
Eliot, Christopher R.
Ellis, Daniel S.
Ellis, Lawrence B.
Endee, Charles H.
Engel, Lewis L.
England, Albert C., Jr.
Ervin, Frank R.
Essig, Alvin
Estes, Joseph W.
Farmer, Douglas A.
Faulkner, James M.
Fawsett, Don W.
Fay, John H.
Federman, Daniel D.
Feingold, Murray
Fern, Donald J.
Ferris, Benjamin G.
Field, Mark G.
Field, Richard A.
Finck, Albert J.
Fine, Jacob
First, Robert A.
Fish, James E.
Fisher, C. Miller
Fitzhugh, Greene
Fitzpatrick, Thomas B.
Fiumara, Nicholas J.
Flacke, Joan W.
Flax, Martin H.
Fleming, T. Corwin
Foley, F. Daniel
Follensby, Edna M.
Forbes, Anne P.
Foster, Gerald S.
Fowler, Joseph W. III
Frankel, Freddy H.
Franklin, William
Franseen, Clifford C.
Frantz, Andrew G.
Frazier, Howard S.
Freedberg, Irwin M.
Freedman, Harold J.
Freinkel, Ruth K.
Fremont-Smith, Maurice
Fried, Marc A.
Friedlich, Allan L.
Friedman, Leonard J.
Fromer, John L.
Gabuzda, Thomas G.
Ganz, Robert N.
Garcia, Celso-Ramon
Gardella, Joseph W.
Gardner, George E.
Garland, Joseph
Garrett, John W. D.
Gauld, A. Gordon
Gephart, F. Thomas
Gergely, John
Gibbs, Richard F.
Glicklich, Earl A.
Glimcher, Melvin J.
Globus, Gordon G.
Glotzer, Donald J.
Golde, Peggy J.
Goodman, Derek J.
Gordon, John E.
Goulian, Mehran
Green, Thomas H., Jr.
Griesemer, Robert D.
Griffith, Donald P.
Grillo, Hermes C.
Griscom, Nathan T.
Gross, Jerome
Grove-Rasmussen, Morton
Grover, John W.
Grunebaum, Henry U.
Guralnick, Walter C.
Haber, Edgar
Hackett, Thomas P.
Haessler, Herbert A.
Hagopian, Peter B.
Hakomori, Sen-itiroh
Hall, Thomas C.

Boston (continued)
Hallgrimsson, Jonas
Hallowell, Phillips
Hamlin, Edward, Jr.
Harris, William H.
Harwood, Reed
Hashimoto, Ken
Hatch, Frederick T.
Hayden, E. Parker
Head, John M.
Hedberg, Stephen E.
Hedley-Whyte, John
Helfant, Murray H.
Hendren, W. Hardy
Hendrick, Ives
Henneman, Elwood
Hill, Lewis W.
Hill, William R.
Hirsch, Oscar
Hoffer, Alex
Holder, Richmond
Holland, James G.
Hollander, Josua
Howe, Henry D.
Howe, Louise P.
Howry, Douglas H.
Huber, William M.
Hugenberger, Paul W.
Huggins, Charles E.
Humphreys, Storer P.
Huntington, Benjamin L.
Hurxthal, Lewis M.
Hutcheson, Bellenden R.
Huttenlocher, Peter R.
Ingersoll, Francis M.
Irwin, John W.
Isselbacher, Kurt J.
Jacobson, Bernard M.
Jacoby, George A., Jr.
Janower, Murray L.
Jardetzky, Oleg
Jeanloz, Roger W.
Johannet, Pierre
Jones, Chester M.
Jones H. Walter, Jr.
Jones, Robert H.
Jones, Wallace A.
Jones, William N.
Joplin, Robert J.
Joseph, Alfred T.
Joseph, John B.
Kagan, Jerome
Kail, Alexandra M.
Kalckar, Barbara W.
Kalckar, Herman M.
Kalin, Theodore A.
Kane, Lewis W.
Kantor, Martin J.
Kantrowitz, Paul A.
Karian, Edward
Kashket, Shelby
Katz, Samuel L.
Kazanjian, Kenneth A.
Kazanjian, Varaztad, H.
Kazemi, Homayoun
Kearsley, Richard B.
Keenan, M. Edward
Keenan, Thomas J.
Keitt, Alvan S.
Keller, John W.
Kelley, Rita M.
Kelley, Sylvester B.
Kelly, Edward J.
Kerr, Walter S., Jr.
Ketchum, William F.
Kimball, Peter G.
Kinsey, Dera
Kite, Owen W.
Kjellberg, Raymond N.
Kleinman, Leonard I.
Kliman, Bernard
Kline, Robert M.
Knowles, John H.
Koch, James F.
Koch-Weser, Jan
Kohn, Henry I.
Kozol, Harry L.
Krane, Stephen M.
Kranes, Alfred
Kravitz, Arthur R.
Krayer, Otto
Kubik, Charles S.
Kuhns, John G.
Kulka, Johannes P.
Kunz, Lawrence J.
Lamborg, Marvin R.
Lamdin, Susanne J.
Lamont, John H.
Lang, David J.
Laver, Myron B.
Lawrence, Glenn W.
Leadbetter, Guy W., Jr.
Leadbetter, Wyland F.
Leaf, Alexander
Leake, Donald L.
Leeman, Cavin P.
Lele, Padmakar P.
Lerman, Jacob
Leskowitz, Sidney
Lever, Walter F.
Levine, Herbert J.
Levitan, Julius J.

Boston (continued)
Lewis, John L., Jr.
Lincoln, Robert C.
Lindemann, Erich
Little, John B.
Littlefield, John W.
Livingstone, John B.
Lombroso, Cesare T.
Lorch, Stephen
Lorenz, Maria
Lowell, Francis C.
Lowell, J. Drennan
Lowis, Samuel
Ludwig, Alfred O.
Lund, Charles C.
Lupien ,Gordon F.
Mabrey, Roy E.
MacAusland, Andrew R.
MacAusland, William R., Jr.
Mack, John E.
Mackay, Harry A.
Mackay, Malcolm
MacLeod, Gordon K.
MacMillan, Alexander S., Jr.
Malone, Lawrence J.
Maloof, Farahe
Malt, Ronald A.
Mann, Walter
Mannik, John A.
Manson, James G.
Marble, Alexander
Marble, Henry C.
Marcus, Saul M.
Mark, Vernon H.
Martin, Donald B.
Masters, Richard
Mayer, Richard F.
Mayman, Chaim I.
Maynard, Edwin P., III
Mayo, Richard A.
McAlpine, Frederick S.
McArthur, Janet W.
McClymont, James C., Jr.
McCully, Kilmer S.
McDermott, William V., Jr.
McGill, Raymond J., Jr.
McGovern, Joseph J.
McGrath, Edward F.
McGuire, Michael T.
McKee, Donald M.
McKhann, Charles F.
McKittrick, John B.
McKittrick, Leland S.
McNeely, William F.
McNeill, J. Malcolm
McPeek, Bucknam
Means, James H.
Mello, Nancy K.
Mendelson, Jack H.
Merrill, Edward W.
Messner, Edward
Michelsen, Jost J.
Miller, Abbott R.
Mills, John A.
Miner, Richard L.
Ming, Si Chun
Misch, Robert C.
Mixter, Charles G., Jr.
Molloy, Maureen K.
Momose, K. Jack
Monaco, Anthony P.
Moore, Francis D.
Morgan, Clarence L.
Morris, Peter J.
Morris, Roger H.
Morrison, Harvey R.
Moser, Hugo W.
Moses, John M.
Moss, Gerald S.
Mueller, Harry L.
Muller, James J.
Murphy, John D.
Murphy, William F.
Murray, Joseph E.
Myers, Gordon S.
Nadas, Alexander S.
Nardi, George L.
Nathan, Louis
Nebesar, Robert A.
Nemiah, John C.
Neuhauser, Edward B. D.
New, Paul F. J.
Nikaido, Hiroshi
Norcross, John W.
Noss, George M.
Novy, Miles J.
Ojemann, Robert G.
Okun, Milton R.
Olin, Harry S.
Olin, Morton J.
Orr, James C.
Osborn, June E.
Otto, William J., Jr.
Page, Lot B.
Palmer, Robert S.
Pant, Shyam S.
Pappas, Arthur M.
Parkhurst, Edward C.
Parsons, Langdon
Pathak, Madhukar A.
Patton, Anthony S.
Pechet, Maurice M.

Boston (continued)

Peebles, Richard R.
Pendergrass, Henry P.
Perlo, Vincent P.
Perry, Willard, Jr.
Phillips, Edgar B., III
Picard, Ernest H.
Pier, Arthur S., Jr.
Pierce, Donald S.
Pittman, Helen S.
Point, Walter W.
Pollard, James J.
Pontopidan, Henning
Potsaid, Majic S.
Porter, Huntington
Porter, Philip J.
Poskanzer, David C.
Poulin, Frederick K.
Pratt, Theodore C.
Prensky, Arthur L.
Prescott, Richmond
Pryles, Charles V.
Putschar, Walter G. J.
Quarton, Gardner C.
Quinby, John T.
Quinby, William C., Jr.
Rabe, Edward F.
Rabkin, Mitchell T.
Rackemann, Francis M.
Radin, Eric L.
Raker, John W.
Randerath, Kurt
Rapin, Annette M. C.
Rapoport, Robert N.
Record, Eugene E.
Reid, Duncan E.
Reiser, David E.
Rendall, Edward S.
Replogle, Robert L.
Revere, George W.
Reyersbach, Gertrud C.
Reynolds, Stephen L.
Rice, Jack O.
Rich, James G.
Richardson, Edward P.
Richardson, George S.
Rieder, Sidney V.
Riley, Augustus
Riseborough, Edward J.
Robbins, Laurence L.
Robertson, Charles W.
Robinson, Dwight R.
Rodkey, Grant V.
Ropes, Marian W.
Rosales, Remedios K.
Rosenberg, Earle H.
Rosenberg, Irwin H.
Rosenberger, Peter B.-B.
Rosenblith, Judy F.
Roth, Sanford I.
Rourke, James A.
Rowe, Carter R.
Runyon, Robert C.
Russell, Paul S.
Russfield, Agnes B.
Rutstein, David D.
St. Goar, Walter T.
Salib, Philip I.
Salzman, Edwin W.
Sanchez, Guillermo C.
Sanders, Charles A.
Sandler, Allan I.
Satin, David G.
Scannell, J. Gordon
Schapiro, Robert H.
Scheuplein, Robert
Scholl, Mary Louise
Schulz, Milford D.
Schuster, Samuel R.
Schwab, Robert S.
Scott, Jesse F.
Scully, Robert E.
Sears, John B.
Seigne, Talbot D.
Selverstone, Bertram
Semrad, Elvin V.
Senior, Boris
Sens, Richard
Shangraw, Keith A.
Shattuck, George C.
Shaw, Robert S.
Sheldon, Charles P.
Short, Charles L.
Sidel, Victor W.
Sidman, Murray
Sidman, Richard L.
Sifneos, Peter E.
Silverman, Samuel
Simmel, Marianne L.
Simmons, Alvin J.
Simon, Harold
Sisson, John H.
Sisson, Warren R.
Skinner, James C.
Slater, Eliot M.
Sleeper, Edward L.
Smith, Clement A.
Smith, Gene M.
Smith, Richard M.
Smith-Petersen, Morten
Smithwick, Reginald H.
Sneddon, Ernest A.

Boston (continued)
Snider, Marvin
Snyder, John C.
Sohier, W. Davies, Jr.
Solomon, Harry C.
Soloway, Albert H.
Sosman, John L.
Soyka, Lester F.
Spear, Louis M.
Speare, George S.
Spellman, John W.
Spencer, Katherine
Spinelli, Ralph W.
Squires, Homer J.
Stalvey, Harold D.
Stanbury, John B.
Stark, Lawrence
Stauffer, Ruth E.
Steckel, Richard J.
Stephen, Alistair M.
Stephenson, Mary L.
Stetson, John B.
Stewart, William G., Jr.
Stoddard, Lawrence T.
Stoeckle, John D.
Stone, Bartlett H.
Strasburger, Larry H.
Stratton, Kathleen
Strickler, William L.
Strole, William E., Jr.
Sturdevant, Charles L.
Sturgis, Somers H.
Suby, Howard I.
Sukenik, Herbert J.
Swan, Charles L., Jr.
Swartz, Jacob H.
Swartz, Morton N.
Sweet, William H.
Szabó, George
Taft, Edgar B.
Taft, Priscilla D.
Talbot, Nathan B.
Talland, George A.
Tefft, Melvin
Thompson, Edgar B., III
Tilley, Robert F.
Todd, Donald P.
Tolman, Maurice M.
Tomchik, Frederick S.
Trachtenberg, Howard A.
Trevett, Laurence D.
Trieger, Norman
Truman, John T.
Tucker, Walter I.
Ulfelder, Howard
van Amerogen, Suzanne T.
Vanderveen, James L.
Vickery, Austin L., Jr.
Villee, Dorothy B.
von Felsinger, John M.
Walzer, Sarita G.
Wang, Chiu-an
Wang, Chiu-chen
Ware, Roland G., Jr.
Warner, Frank A.
Warren, Richard
Watkins, Arthur L.
Watson, Barbara K.
Waud, Barbara E.
Weber, Alfred L.
Webster, Edward W.
Webster, Henry deF.
Wedrow, Earl M.
Weinberg, Arnold N.
Weiner, Leonard R.
Weinfeld, Marvin S.
Weinstein, Louis
Weisberger, David
Weiss, Alfred D.
Welch, Claude E.
Wells, Lionelle D.
Weylman, Walther T.
Wheeler, Edwin O.
Wheelock, Frank C., Jr.
White, James C.
White, Paul D.
Whitelaw, George P.
Whiting, Richard G.
Wilkins, Earle W., Jr.
Wilkinson, Harold A.
Williams, Conger
Williams, Harold W., Jr.
Williams, Hibbard E.
Williams, Vernon P.
Wills, A. Allison, Jr.
Winkler, Gerald F.
Wohl, Martin J.
Wolf, Irving
Wolfe, Hubert J.
Woodruff, Lorande M.
Wright, R. Lewis
Wurtman, Richard J.
Wyman, Edwin T., Jr.
Wyman, Stanley M.
Yakovlev, Paul I.
Yenel, Faruk M.
Young, D. Michael
Young, Robert A.
Yurchak, Peter M.
Zamcheck, Norman
Zamecnik, Paul C.
Zeller, John W.
Zinberg, Norman E.
Zola, Irving K.

Brighton
Broderick, Thomas F., Jr.
Cavanaugh, James J. A.
Flynn, Robert E.

O'Brien, Richard G.
Yount, William J.

Brockton
Chase, John S.
Dickersin, G. Richard
Duncombe, Alfred L.
Sinesi, Sabino J.

Brookline
Albright, Fuller
Balch, Franklin G., Jr.
Barker, Robert H.
Barsh, Laurence I.
Barnum, Francis G., Jr.
Burgin, Leon B.
Chalpin, George
Cline, Herbert S.
Colby, Fletcher H.
Darling, R. Clement
Derow, Harry A.
Dyer, Edward C.
Finesinger, Abraham L.
Godley, Anne F.
Goldthwait, Joel C.
Gregg, Ward I.
Hall, Francis C.
Helman, Milton E.
Herbst, Arthur L.
Hodgson, John S.
Hoeffel, Gerald N.
Holland, Daniel J., Jr.
Homans, John, Jr.
Hormell, Robert S.
Kornfeld, William
Lee, Roger I.
Levin, Sidney
Linenthal, Arthur J.
Linton, Robert R.
Luongo, Michael A.
Magraw, Charles E.
Mann, Walter
Mannik, John A.
Mixter, Charles G.
Modell, Arnold H.
Muirhead, Donald M., Jr.
Mushatt, Cecil
Newell, John L.
Potter, Maxwell G.
Prather, George C.
Rhodes, Frank I.
Rock, John
Sack, Theodore
Schatzki, Richard
Schatzki, Stefan C.
Siscoe, Dwight L.
Shea, Cornelius J.
Smith, Judson A.
Smith, William D.
Spalding, Roger
Spangler, Arthur S.
Sturgis, George P.
Thoma, Kurt H.
Van Buskirk, David
Viets, Henry R.
Webster, Richard C.
Winsor, Allen P.
Wolff, Louis
Young, Edward L.
Zarsky, Edward L.
Zaudy, Eleanor C.

Bryantville
Angley, John C.

Cambridge
Binstock, William A.
Bock, Arlie V.
Brazelton, T. Berry
Brown, Joan M.
Caplan, Gerald
Carter, Franklin
Christ, Jacob
Cohen, Morris
Coles, Martin R.
Coolidge, John C.
Dawes, Daniel C.
Decker, Briant L.
Deutsch, Helene
Dexter, Chester J.
Evans, Robley D.
Evans, Robert E.
Farnsworth, Dana L.
Floyd, Cleveland
Frank, Thomas
Gates, Philip H.
Hansen, Robert J.
Hardy, Harriet L.
Hubbard, Eliot, Jr.
Kelly, Leo T.
Levey, Bernard
Livingston, M. Stanley
Mason, Edward A.
Matz, Myron H.
Means, Paul H.
Neumann, Charlotte G.
Postel, Sholem
Potsaid, Majic S.
Reid, Elizabeth Aub
Richie, Robert H., Jr.
Robey, John S.
Ross, Ralph A.
Rudy, Harold A.
Sachs, Benjamin
Sharpe, William, Jr.
Shelton, William R.
Sledge, Clement B.
Sprague, Howard B.
Toll, Karel van Syckel
Townsend, James H.
Trump, John G.
Wadsworth, George P.

Weinberger, Jerome L.
Yaffee, Howard S.
Zetzel, Elizabeth R.

Canton
Griggs, John B.
Yens, Otto C.

Chestnut Hill
Daniels, Hadassah S.
Thorndike, Augustus
Whiskin, Frederick E.

Cohasset
Beaman, George B.
Morse, George W.
Sceery, Robert T.

Concord
Austin, Richard C.
Fay, Gardner F.
Hitchcock, James
Keevil, Charles S., Jr.
Keuper, Charles S.
McDonald, Francis C.
Norton, Paul L.
Ruboy, Jordan S.
Whitfield, Thomas J., III

Danvers
Crossfield, Ruth M.
Essember, Lawrence J.
Fearer, Nathan H.
Thornton, Clarence E.

Dedham
Hawes, Lloyd E.
Osborne, Robert K.
Putnam, Henry M.
Soutter, Lamar
Sweetnam, George H.

Dorchester
Dempsey, Peter A.

Dover
Santoro, Benjamin T.

Duxbury
Fowler, Dwight M.

East Braintree
Slemons, Marion L.

East Falmouth
Steel, David

Edgartown, Martha's Vineyard
Mazer, Milton

Fall River
Hawes, Cornelius H.
Hill, Norman P.
Mason, William
Smedley, Louis M.
Spencer, Jack

Falmouth
Bixby, H. Irving

Fitchburg
Pick, Walter
Walker, George M.

Foxboro
Putnam, James J.

Framingham
Albert, Joseph
Ash, Homer L.
Golden, Theodore S.
Senghas, Richard E.

Gardner
McPeak, Clarence N.

Greenfield
Buchanan, William R., Jr.
McClelland, William K.
Moran, John E.

Hadley
Huntington, James L.

Harding
Mittel, Neuman S.

Hingham
Eldredge, LeRoy L., Jr.

Holyoke
Bagg, Edward P., Jr.
Bandeian, Alice M.
Ferguson, Edward L.
Mahoney, Stephen A., Jr.

Hopkinton
Denton, Jane E.

Hyannis
Eldredge, James H.
Garran, Frank W., Jr.
O'Malley, Austin F.

Ipswich
Gauthier, Jacqueline
Petranek, Joseph R.
Wigglesworth, William C.

Jamaica Plain
Barrows, Lawrence J.
Chute, Richard
Dwight, Richard W.
Edsall, Geoffrey
Faxon, Henry H.
Fox, Brendan M.
Graham, John R.
Levene, Martin B.
Lloyd, John B.
Randall, Russell E., Jr.
Timberlake, William H.
Zieper, Irving

Lawrence
D'Urso, John J.
Ganem, Emil J.
O'Shea, James A.

Leominster
Wheeler, Charles A.

Lexington
Bellinger, Martin J.
Cosgrove, William L.
Petersen, James A.

Longmeadow
Huston, Lewis L.
Plotkin, Leonard H.
Lowell
Grant, George J. M.
Letsou, Vasilios G.
Monahan, John J.
Lynn
Manzi, Rita A.
O'Keefe, Edward S.
Sarris, Spiros P.
Lynnfield
Newhall, Harvey F.
Malden
Bennett, Doris R.
Bennett, Warren
Garrey, Walter E.
Thorp, Edward G.
Manchester
Burnett, Francis L.
Marblehead
Hopkins, Stanford W.
Medford
Guthrie, Andrew D., Jr.
Heath, Clark W.
O'Connor, Harrison
Melrose
Glines, George A.
Watson, Richard H.
Milton
Dickson, William A.
Driscoll, Robert A.
Gamble, Clarence J.
Hepburn, James P.
McGrath, Edward F.
O'Keeffe, Arthur F.
Sullivan, Eugene R.
Toch, Rudolf
Tudor, Frederic
Van Dyke, Wilhelmina
Natick
Hanelin, Joseph
Needham
Cummer, Frederick H., Jr.
Jackson, Henry, Jr.
Vanderpol, Maurice
New Bedford
Hoffman, Howard A.
Lewis, Emory O.
Tripp, Curtis C.
Newburyport
Bullard, Carleton W.
Newton
Adler, Morris H.
Newton Centre
Bonner, Frances J.
Carter, Lucille P.
Chasen, Mignon C.
Derow, Sidney
Gill, Benjamin F.
Kennard, Harrison E.
Mueller, Barbara C.
Mueller, Egbert H.
Rutherford, Rondall W.
Trapp, Carl E.
Newton Highlands
Brailey, Allen G.
Kaplan, Samuel
Newton Lower Falls
Temby, William D.
Garcelon, Gerald
Norfolk
Noone, P. Francis
Yatsuhashi, Masao
Northampton
Averill, James H.
Tatlock, Hugh
North Andover
Rogers, Horatio
Wallwork, David W.
Norwell
Bailey, David W.
Peabody
Lurie, Arthur S.
Osgood, Herman A.
Pittsfield
Tracy, Robert J.
Plymouth
Haggart, G. Edmund
Hamilton, Harold H.
Pocasset
Sanborn, Frederick
Quincy
Ciano, Joseph F.
McCarthy, Philip L.
McGugan, A. David
Randolph
Moore, Robert F.
Reading
McMahon, Arthur W.
Rockport
Sanders, Morris B.
Roslindale
Bratt, Harold A.
Guardo, James L.
Rutland Heights
Clifford, Milton H.
Salem
Clark, DeWitt S., Jr.
Flynn, John G.
LeDonne, John E.
Lowd, Harry M., Jr.
Phippen, Walter G.
Polansky, Symon C.
Richards, Robert S.
Shannon, James M.
Stebbins, Henry D.
Thompson, Richard H.

Somerville
Pollard, John T., Jr.
South Duxbury
Shirley, J. Newton
South Hamilton
Bacon, William B.
South Sudbury
Adelson, William J.
South Weymouth
Emerson, George F.
Kilfoyle, Richard M.
Rounds, Charles E.
Springfield
Carson, Parker C.
Derby, Joseph P.
Derrick, Charles C.
Edgelow, Arthur F. G.
Franseen, Elmer F.
Hayes, Donald R.
Hopkins, Frederick S.
Hoyt, W. Fenn
Lewis, James
Williams, David W.
Zacarian, Setrag A.
Stockbridge
Kimberly, Charles H.
Swampscott
Mayo, Frederick B.
Miller, Carroll C.
Vineyard Haven, Martha's Vineyard
Butler, Allan M.
Waban
Beuscher, Ruth B.
King, Howard S.
Wakefield
Fiascone, Arnold D.
Rosenthal, Murray K.
Waltham
Edelstein, Leon M.
Hardy, Irad B.
Holmes, Joseph A.
Hurwitz, Joshua J.
Lewis, Joseph L.
Shulman, Leonard B.
Smith, Richard H.
Wareham
Lincoln, James R.
Watertown
Empson, Dora R.
Price, Donald L.
Waverley
Ouelette, Eileen M.
Wellesley
Flanagan, Norris B.
Pfeffer, William, Jr.
Wellesley Hills
Bragg, Robert L.
Brenner, Joseph H.
Gray, Basil C.
Klein, Donald C.
Parker, Jack S.
Pippitt, Richard B.
Reidy, John A.
Stempien, J. Henry
Wenham
Rogers, Daniel M.
West Falmouth
Faxon, Nathaniel W.
West Newton
Berezin, Martin A.
Weston
Moreton, John R.
Peebles, Thomas C.
Rogers, William P., Jr.
Swan, Channing S.
Taylor, Grantley W.
Van Nuys, Fresenius
West Roxbury
Conway, Richard E.
Littmann, David
Sasahara, Arthur A.
Stetson, Richard P.
Westwood
Curwen, William L.
Taylor, John B.
Williamstown
Reynolds, George S.
Urmy, Thomas Van O.
Winchester
Annino, Donald J.
Clark, Richard J.
Kaufmann, Gustav G.
Kermond, William L.
Marks, George A.
McLean, John D.
Tingey, William H., Jr.
Woburn
McKenzie, Wilfred L.
Worcester
Buckley, Frank M.
Burrow, Jarrel G.
Carmody, John T. B.
Cooperman, Sheldon
Damiani, Clito R.
Duggan, John A.
Freymann, John G.
Harper, Robert S.
Johnson, Verner S.
Lingley, James R.
Miller, Erwin C.
Oakley, Joseph C.
Sniffen, Ronald C.
Starobin, Oscar E.
Stone, Bernard B.
Wheeler, Bancroft C.
Zmyslowski, Walter P.

MICHIGAN
Allen Park
Russell, Henry N., Jr.
Ann Arbor
Bishop, Ronald C.
DeLong, William B.
Miller, James G.
Smillie, John W.
Sweet, Robert B.
Vial, A. Burgess
Waldron, Alexander M.
Birmingham
Esslinger, John O.
Leach, Charles A., Jr.
Detroit
Arnstein, A. Robert
Blodgett, William H.
Comly, Hunter H.
Del Giudice, Peter A.
Eyler, William R.
Frame, Boy
Mitchell, David C.
Osius, Eugene A.
Prus, Alphone M.
Smith, W. Pierce
Sphire, Raymond D.
Stiefel, Daniel M.
Sweeny, Donald N., Jr.
Zuelzer, Wolfgang W.
Zukowski, Henry J.
Grand Rapids
Beeman, Carl B.
Capps, Samuel C.
Sugiyama, Tetsuo
Ionia
Tannheimer, John F.
Iron Mountain
Alexander, William H.
Jackson
Munro, Nathan D.
Pontiac
Cudney, Ethan B.
Saranac
Faust, Lawrence W.

MINNESOTA
Minneapolis
Florence, David W.
Goetz, Frederick C.
Johnson, Norman P.
Kennedy, Byrl J.
Peterson, Harold O.
Pohl, John F.
Rodgers, Richard S.
Wang, Yang
Williams, Ralph C., Jr.
Rochester
Haines, Samuel F.
Helmholz, Henry F., Jr.
Karnes, William E.
Randall, Raymond V.
Stewart, James M.
St. Paul
Markland, A. Colin
Schwyzer, Marguerite
Worthington
Amick, Arthur F.

MISSISSIPPI
Jackson
Guyton, Arthur C.

MISSOURI
Kansas City
Dann, David S.
Dennie, Charles C.
Lilly, Terry E., Jr.
Pickard, Nicholas S.
Trowbridge, Ellsworth H., Jr.
Springfield
Moore, William R.
St. Joseph
McDaniel, John R.
Riddell, Richard V.
St. Louis
Chaplin, Hugh, Jr.
Clark, Sam L., Jr.
Dodd, Robert B.
Doisy, Edward A., Jr.
Drake, Truman G.
Funsch, Robert E.
Hanser, Theodore H.
Hershey, Falls B.
Josse, John W.
Lytton, William B.
Maughs, Sydney B.
Miller, Jule P., Jr.
O'Brien, Robert M.
Robins, Eli
Stephens, William A.
Strauss, Arthur E.
Webster Groves
Gaunt, Frank P.

MONTANA
Choteau
Crary, Lyall, Jr.

NEBRASKA
Omaha
Bisgard, James D.
Luikart, Ralph H.
St. Aubin, Paul M. G.

NEVADA
Reno
Cantlon, Edwin L.
Cantlon, J. Vernon
Musgrave, Rhoda U.

NEW HAMPSHIRE

Concord
Mintz, E. Ross

Dover
Wilson, Robert F.

Exeter
Curtin, Richard R.
Heyl, James T.

Hancock
Eustis, Richard S.

Hanover
Anthonisen, Margaret R.
Goodale, Fairfield, Jr.
Gundersen, Sven M.
Heyl, Henry L.
Hunter, Ralph W.
McKenna, John B.
Staples, Oscar S., Jr.
Sycamore, Leslie K.
Tisdale, William A.

Jaffrey Center
Millard, D. Glyn

Laconia
Baker, William J.

Manchester
Bienvenu, Lester J.
Colokathis, Paul
Kalil, Toufic H.
McGahey, Claude E.
Walker, Jerome K.

Orford
Hall, Marshall G.

Portsmouth
Lium, Rolf

Wolfeboro
Adams, Ralph H.
Gregory, Harold E.

NEW JERSEY

Boonton
Ward, Albert J.

Elizabeth
Gorman, Rosemary V.

Englewood Cliffs
Roberts, Charles D.

Glen Ridge
D'Alessandro, Genesio L.

Haddonfield
Johnson, Dale G.

Leonia
Layzer, Robert B.

Madison
Diehl, Sylvia Davies

Monmouth Beach
Judd, Alvan B.

Montclair
Greene, Robert G.

Newark
Greene, Richard W.
Schaaf, Royal S.

New Brunswick
Kuhn, William G., Jr.

Orange
Stearns, Thornton

Paterson
Sporer, Edita Sternova
Van Eerde, Albert

Princeton
Dalrymple, Willard
Munro, Jeannette
Rothberg, Harvey D., Jr.

Springfield
Wosnitzer, Morey

Summit
Willetts, Arthur T.

Trenton
Rosenthal, Albert L.
Shine, Kenneth I.

Washington
Horwitz, William H.

NEW MEXICO

Albuquerque
Adler, Scott
Mora, Federico
Parnall, Edward

Los Alamos
Grier, Robert S.
Shipman, Thomas L.

Santa Fe
Lunt, Lawrence K.

NEW YORK

Albany
Berg, Howard W.
Holt, William L., Jr.
Thomas, Wilbur A.
Traver, Clarence A.

Bath
Traver, Ralph F.

Bronx
Ellenberg, Jack
Rosenbaum, Milton
Seed, John C.
Ulick, Stanley C.
Wohl, Herbert

Brooklyn
Anderson, H. Clarke
Cohen, Irvin J.
Friedman, Clarence F.
Neville, Charles W., Jr.

Buffalo
Bakay, Louis

Calkins, Evan
Carey, Robert W.
Holland, Jimmie B.
Hummel, L. Edgar
Klein, David M.
Klein, Edmund
Lambert, Edward C.
Lowe, Charles U.
Osgood, Howard
Stewart, John D.

Cleverdale
Tefft, Richard C., Jr.

Cooperstown
Greenough, James
McIver, Monroe A.
Sahler, Otto DeP.

Croghan
Guller, Erastus I.

Freeport, Long Island
Charash, Leon I.

Glen Head, Long Island
Heggie, John F.

Glens Falls
Batt, Richard C.

Katonah
Thompson, Walter A.

Kenmore
Schenk, Worthington G., Jr.

Kingston
Gorman, Mary L. Gannon

Larchmont
Haralambie, James Q.

Little Neck, Long Island
Wenig, Martin

Manhasset, Long Island
Ayers, William B.
Nicosia, Arnold P.

Margaretville
Mackie, Robert W.

Mechanicville
Ryan, James P.

Mount Kisco
Hovsepian, Jeannette A.

Mount Morris
Judd, James M.

New Hartford
Millet, J. Bradford

New York City
Alper, Joseph M.
Bowden, Lemuel
Carroll, Robert E.
Chamberlain, J. Maxwell
Christenson, William N.
Cohn, Zanvil A.
Collins, Harvey S.
David, John R.
Dickson, Carol C.
Dole, Vincent P., Jr.
Edelman, Gerald M.
Finkenstaedt, John T.
Fishman, Robert A.
Foldes, Francis F.
Goldblatt, Myron E.
Gomatos, Peter J.
Grant, Lester H.
Greenhill, Maurice H.
Heffron, Roderick
Henley, Thomas F.
Hiebert, John M.
Hobson, Lawrence B.
Katz, Arnold M.
Kaufman, M. Ralph
Keeley, James K.
Keenan, M. Edward
Kiely, Brian
Klenk, Eugene L.
Kline, Robert M.
Knapp, Robert G., Jr.
Lake, Michael
Lambert, John T.
Langer, Glenn A.
Locke, Edwin A.
Loeb, John N.
Loeb, Robert F.
Los, Edward
Lowe, Charles U.
Luck, David J. L.
Mach, Bernard F.
Maier, John
Malcolm, John A.
Mannik, Mart
Metcalf, Kenneth M.
Mixter, George, Jr.
Moore, Burness E.
Mote, John R.
Packert, Richard C.
Patterson, Robert L., Jr.
Patterson, Russell H.
Quan, Stuart H. Q.
Rappleye, Willard C.
Saunders, George M.
Squire, Lucy F.
Stason, William B.
Surls, Joseph K.
Tenney, Vivian A.
Twombly, Gray H.
Watson, James W.
Watson, Robert F.
Wilson, Philip D.
Wilson, Philip D., Jr.
Yanagisawa, Kazuo
Youmans, John B.

APO New York
Boivin, Maurice J.
Dunbar, Ronald W.
McGinty, John B.
Sanders, R. Wyman
FPO New York
Ragland, Stuart, Jr.
Plattsburg
Barton, Lyman G., Jr.
Poughkeepsie
Bedell, Wallace C.
Keeley, James K.
Rochester
Allison, Charles R.
Anderson, Erna G.
Berg, Robert L.
Boller, Charles
Crawford, Henry B.
Egel, Norman
Friedman, Stanford B.
Gillies, Alastair J.
Griner, Paul F.
Morgan, William L., Jr.
Morton, John J.
Moss, Arthur J.
Radebaugh, John F., Jr.
States, John D.
Stewart, James M.
Saranac Lake
Welles, Edward S.
Scarsdale
Hammond, William
Lipman, Marvin M.
Syracuse
Dunn, Edward
Gardner, Lytt I.
Gibson, Leo E.
Hale, Clayton H.
Neptune, Edgar McC.
Silverman, A. Clement
Troy
Talin, John J.
Upton, Long Island
Cotzias, George C.
Dahl, Louis K.
Utica
Case, Clarke T.
Knapp, Robert G., Jr.
Watertown
George, H. Louis, Jr.
White Plains
Newman, Herbert A.

NORTH CAROLINA

Asheville
Morrison, Roger W.
Chapel Hill
Barnett, Thomas B.
Burnett, Charles H.
Chamberlin, Harrie R.
Craige, Ernest
Gottschalk, Carl W.
Lansing, Cornelius
Lassiter, William E.
McClellan, Walter S.
Miller, Milton L.
Monroe, John T., Jr.
Rolett, Ellis L.
Taylor, Isaac M.
Charlotte
Brenizer, Addison G., Jr.
Elliott, Joseph A., Jr.
Concord
Collins, David L., Jr.
Durham
Appel, Stanley H.
Pearse, Richard L.
Peete, William P. J.
Persons, Elbert L.
Reeves, Robert J.
Schuntermann, Peter P.-E.
Wyngaarden, James B.
Fayetteville
Barlow, John F.
Fort Bragg
Goodson, William H.
Greensboro
Register, John F.
Spencer, Richard E.
Troxler, Eulyss R.
Raleigh
Manly, Isaac V.
Rhodes, John S.
Sandifer, Myron G., Jr.
Wooten, E. Jane Herring
Worth, Thomas C.
Young, David A.
Southern Pines
McMillan, Robert M.
Tryon
Placak, Joseph C., Jr.
Wilmington
Graham, Charles P.
Winston-Salem
Conrad, Elizabeth

NORTH DAKOTA

Minot
Rodman, Charles A., II

OHIO

Akron
Kramer, James G.
Voke, Edward L.

Canton
Scott, Murray W., Jr.

Cincinnati
Acheson, George H.
Block, Gordon L.
Freiberg, Joseph A.
Gaffney, Thomas E.
Gall, Edward A.
Newstedt, J. Roger
Rubinstein, Jack H.
Schneider, Benjamin
Stenger, Richard J.

Cleveland
Badal, Daniel W.
Bloomfield, Daniel K.
Evans, Richard R.
Ford, Amasa B.
Glover, Donald M.
Groves, Laurence K.
Hopkins, Robert W.
Jefferies, William McK.
Kendrick, James I.
Kennedy, John H.
Morgan, Winfield S.
Pearson, Olaf H.
Rhinelander, Frederic W.
Rutman, Joel U.
Ryan, Kenneth J.
Shannon, Edward W.
Shealy, C. Norman
Simeone, Fiorindo A.
Weir, David R.

Cleveland Heights
Baumgartner, Donavin A., Jr.

Columbus
Dawson, Clyde W.
Haynes, Ruth C.
Haynes, Walter M.
Tetirick, Jack E.

Dayton
Flook, Samuel E.
Hochwalt, W. Richard

North Canton
Shipley, Margaret S.

Oberlin
Warner, John H., Jr.

Shaker Heights
Banker, Betty Q.

Youngstown
Coombs, Frederick S.
McElroy, William D.

Wooster
Carruth, Lee Jackson

OKLAHOMA

Altus
Hiett, Joan Kazanjian

Muskogee
Fite, E. Halsell

Oklahoma City
Bell, James P.
Carey, John M.
Eliel, Leonard P.
McClellan, Betty J.
Richardson, William R.
Stout, Hugh A.

Tulsa
Steele, Byron W., Jr.

OREGON

Arch Cape
Rockey, Eugene W.

Camp Sherman
Livingston, William K.

Medford
Barss, Theodore P.
Durno, Edwin R.
Rutter, Thomas

Portland
Baker, Russel L.
Boyden, Allen M.
Burns, E. Murray
Carter, Richard R.
Ditmore, Harry B., Jr.
Hall, Robert G.
Higgins, Robert B.
Ray, Leon F.
Saslow, George
Sutherland, Donald W.
Thatcher, Blair van H.
Whittemore, James P.

PENNSYLVANIA

Ardmore
Bora, F. William, Jr.
Sampson, D. Allen

Bangor
Cascario, Nicholas, Jr.

Bethlehem
Leister, Claude M.

Drexel Hill
Weinberg, Richard A.

Fort Washington
Boger, William P.

Glenside
Michie, Catherine R.

Harrisburg
Berkheimer, George A.

Latrobe
Moran, Thomas W., Jr.
Media
Kitts, Albert W.
Merion Station
Murphy, Grace L.
Philadelphia
Baue, Arthur E.
Bornstein, Donald L.
Brent, Robert L.
Dohan, F. Curtis
Fisher, Mary S.
Goeringer, C. Frederick
Heath, Robert D.
Hirschhorn, Richard C.
Ingalls, Theodore H.
Ludwig, George D.
Mancall, Elliott L.
McCann, Samuel M.
Mendelsohn, Mortimer L.
Michie, Alexander J.
Montgomery, Hugh
Nicholson, Jesse T.
Normann, Nils
Perrin, George M.
Roth, James L. d'A.
Rovit, Richard L.
Schnabel, Truman G., Jr.
Ship, Irwin I.
Starr, Isaac
Stokes, Joseph, Jr.
Stunkard, Albert J.
Vaughan, Victor C., III
Wood, Howard P.
Zacks, Sumner I.
Zervas, N. Themistocles, Jr.
Phoenixville
Shuter, Eli R.
Pittsburgh
Dwyer, John H.
Fennell, Robert H., Jr.
Ferguson, Albert B., Jr.
Field, James B.
Leighton, Joseph
McLaughlin, William B.
Price, Stuart E., Jr.
Tyson, Robert G.
Urquhart, John, III
Selinsgrove
Bailey, Nelson E.
Swarthmore
Ferguson, James J., Jr.
Wyomissing
Leinbach, Thomas C.
Morrissey, E. James

RHODE ISLAND
Cranston
Aaronson, Leroy D.
Pawtucket
Hogan, John F.
Providence
Cotter, Walter C.
Cutts, Frank B.
Hamlin, Hannibal
Liffmann, Kenneth E.
Pitts, John D.
Sargent, Francis B.
Sawyer, Carl S.
Sinclair, Edmond B.
Strom, John O.
Troppoli, Daniel V.

SOUTH CAROLINA
Charleston
Boone, John A.
Clowes, George H. A., Jr.
Paul, John R., Jr.
Summerall, Charles P., III
Talbert, Oliver R.
Zimbler, Seymour
Columbia
Theus, Walter W.

SOUTH DAKOTA
Sioux Falls
Wegner, Karl H.

TENNESSEE
Big Spring
Warren, Charles F.
Bristol
Gammon, William M.
Chattanooga
Ballard, Fred B., Jr.
Johnson City
Brindley, Clyde O.
Kingsport
Maloy, Joseph K.
Knoxville
Chrenoff, Amos I.
Stall, Bernard G., III
Memphis
Livermore, George R., Jr.
Murray, David B.
Nobles, Eugene R., Jr.
Rosenberg, E. William
Shaw, John L.
Stern, Newton S.
Nashville
Buchanan, Robert N., Jr.
Cobb, Cully A., Jr.
Lee, John M.

Newman, Elliott V.
Smith, Marion L.
Oak Ridge
Ruley, Henry B.

TEXAS
Austin
Kreisle, James E.
Winkler, John J.
Beaumont
Hinshaw, Arvil J.
Corpus Christie
Wilde, Henry D., Jr.
Dallas
Binion, John T.
Carter, George B.
Coggeshall, Howard C.
Giles, Robert B., Jr.
Hodges, T. Wiley
Jenkins, Marion T.
Kartchner, Mark M.
Martin, James A.
Moore, S. Halcuit, Jr.
Rose, Patrick F.
Rosser, Curtice
Schneiderman, R. Neal
Siperstein, Marvin D.
Spence, Harry M.
Thompson, Jesse E.
Urschel, Harold C., Jr.
Wheeler, C. Gene
Wheeler, James T.
Williams, Oscar B., Jr.
Young, John G.
Denison
Freeman, Don W.
Forth Worth
Flood, William E.
Key, Robert E.
Rutledge, Robb H.
Fort Sam Houston
Lowenstein, Edward
Houston
Crawford, Ernest S.
David, Solomon D.
Eppright, Richard H.
Keats, Arthur S.
Owen, William R.
Smith, Edward T.
McAllen
Evans, Sheridan S.
San Antonio
Miller, Ralph B.
Rowland, Christopher Van A., Jr.
Thompson, Milton S., Jr.
Wichita Falls
Tanner, James W.

UTAH
Ogden
Keyes, Gale H.
Perkins, Arthur
Salt Lake City
Christensen, William R.
Clark, Lincoln D.
Hebertson, Wayne M.
Nelson, Russell M.
Nielsen, Talmage W.
Young, Clark

VERMONT
Bennington
Giddings, Wooster P.
Brattleboro
Sharpe, J. Douglass
Tompkins, J. Butler
Burlington
Bell, John F.
Donaghy, Raymond M. P.
Kuhlmann, Raymond F.
Mazuzan, John E., Jr.
Smith, Robert P.
Soule, A. Bradley, Jr.
Enosburg Falls
O'Shea, Clare Marshall
Montpelier
Buttles, Roy V.
Peacham
Rogers, William A.
Waterbury
Chittick, Rupert A.
West Townshend
Folsom, Hugh F.
White River Junction
Anthonisen, Niels L.
Crandell, Walter B.

VIRGINIA
Alexandria
Collins, Richard
Owyang, Pauline
Arlington
Brewster, William R., Jr.
Detwiler, Robert H.
Ormandy, Laszlo
Charlottesville
Parson, William
Swineford, Oscar, Jr.
Wood, J. Edwin, Jr.
Fairfax
Waring, Elmer S.
Hampton
Jones, Thomas B.
Irvington
Wescott, Henry H.

Mathews
MacDonald, Ralph F.
Norfolk
Exley, Mark M.
Richmond
Adams, Raymond A.
Blades, James F.
Carmichael, Miriam W.
James, G. Watson, III
Jones, Basil R.
Jordan, William R.
Sutphin, Adney K.
Thompson, W. Taliaferro, Jr.
Tucker, James T.
Ulmer, Jack L.
Roanoke
Glendy, Margaret Moriarty
Glendy, R. Earle
Walke, John T.
Wood, Benjamin S.
Wise
Howard, Fred H.
Wytheville
Schuler, James D.

WASHINGTON
Bellevue
Milan, Daniel F., Jr.
Bellingham
Teel, Charles E.
Watts, Arthur B.
Mercer Island
Skinner, Alfred L., Jr.
Olympia
Jones, Gordon E.
Seattle
Balius, Edward F.
Bell, John W.
Brown, Norman K.
Brownsberger, Carl N.
Coe, Robert C.
Compton, David W.
Crystal, Dean K.
Edmunds, L. Henry, Jr.
Garrigues, Henry H.
Gaston, Lamont W.
Lawrence, G. Hugh
MacMahon, Charles E.
Odland, George F.
Peterson, Hart de C.
Polak, Alexander
Rutherford, Robert N.
Shurtleff, David B.
Stewart, John E.
Volwiler, Wade
Wimberger, Herbet C.
Spokane
Johnston, Edward V.
Kleaveland, Richard N.
Walla Walla
Brooks, Peter T.
Gilbert, Allen C.
Yakima
Mathieu, Thomas J.
Patterson, H. Eugene

WEST VIRGINIA
Beckley
Klingensmith, Walter E.
Charleston
Anderson, Randolph L.
Hills, Henry M., Jr.
Revercomb, Paul H.
Stewart, William C.
Fairmont
Shaffer, Frederick G.
Wang, Shen Kuang
Martinsburg
Cheer, Sheo-Nan
Morgantown
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Marshfield
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Melvin, William J. S.

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Sober, Stanley

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Davanloo, Habibolah
Greenwood, Frederick A. H.
Johnson, Louis G.
Kahn, David S.
Lipowski, Zbigniew J.
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McConnell, Fleming
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Robillard, Raymond L.
Shannon, James G.
Shugar, Joseph L.
Thurlbeck, William M.
Wilson, William E.

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Burland, George R.

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Colpitts, Grant E.

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Mnaymneh, Walid Ahmed
Wilson, John L.

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Stovner, Jacob

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Sao Paulo
Barretto, Oscar de F.

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Santiago
Williamson-Lefort, Ladislao

COLOMBIA
Bogota
Salamanca, Joan J.

ECUADOR
Quito
Vermillion, Clinton D.

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Asuncion
Bridge, Edward M.

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de Mola, Luis L.
Hakala, Thomas R.

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Stockholm
Mathé, Aleksander

SWITZERLAND
Basel
Hügin, Werner
Pietra, Guiseppe G.
Geneva
Muller, Alex F.
Zurich
Bally, Peter R.

VIETNAM
Nha Trang
Reed, John M.

WALES
Cardiff
Thomas, Anne G. T.

WEST PAKISTAN
Rawalpindi
Klaus, Hanna

FORMS OF LEGACIES

A. *An Unrestricted Legacy*

"I give to The Massachusetts General Hospital, a corporation organized under the laws of Massachusetts and situated in Boston, Massachusetts, ...($)."

Money given in this way may be used by the Hospital for any purpose within the scope of its powers. Both principal and income may be so used.

B. *A Legacy Restricted as to Principal but Not Restricted as to Income*

"I give to The Massachusetts General Hospital, a corporation organized under the laws of Massachusetts and situated in Boston, Massachusetts, ...($). The principal of this gift shall be held and may be mingled with other funds of the Hospital for investment. The Hospital may expend the income for any purpose within the scope of its powers. (The following sentence is optional.) This gift is made in memory of ..... and shall be known as the ..... Fund."

Money given in this way establishes a permanent fund.

C. *A Legacy Intended for a Special Purpose*

Where either principal or income of a bequest is to be restricted to some special purpose of the Hospital, it is suggested that the testator contact the Treasurer's Office, 45 Milk Street, Boston.

DALTON SCHOLARSHIPS

Scholarships will be awarded to the candidates recommended by the General Executive Committee of the Massachusetts General Hospital and confirmed by the Trustees.

The holders of these Scholarships are required to do original work in subjects to be designated.

For particulars apply to the General Director.

MASSACHUSETTS GENERAL HOSPITAL
Fruit Street, Boston

See also page 140 of this Report

WARREN TRIENNIAL PRIZE

The Warren Triennial Prize was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the author of the best dissertation, considered worthy of a premium, in some subject in Physiology, Surgery, or Pathological Anatomy, the arbitrators being the General Executive Committee of the Massachusetts General Hospital.

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